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*The Impact of Ownership Structure and Other  
Corporate Governance Mechanisms on Firm  
Performance, Accounting Discretions and Investor  
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BOONYAWAT, KARUNTARAT

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**The Impact of Ownership Structure and Other  
Corporate Governance Mechanisms on  
Firm Performance, Accounting Discretions and  
Investor Perceptions: Evidence from Thailand  
before and after the Corporate Governance Reforms**

**Karuntarat Boonyawat**

A thesis submitted in partial fulfilment  
of the requirements for the degree of  
Doctor of Philosophy

Accounting and Finance Research Group  
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Business School  
2013

# **The Impact of Ownership Structure and Other Corporate Governance Mechanisms on Firm Performance, Accounting Discretions and Investor Perceptions: Evidence from Thailand before and after the Corporate Governance Reforms**

## **Abstract**

A weak corporate governance system and high ownership concentration with dominant family shareholders, in particular, were claimed by the World Bank to be the main causes of the 1997 financial crisis in Thailand. Consequently, the Thai government embarked on a high-profile program of corporate governance reforms in order to regain investor confidence in the capital market. This thesis aims to provide systematic, empirical evidence on whether the ownership structure was really the key reason for the crisis and if the reforms have worked as well as they were intended to. Focused on the period from 1994 to 2007, the first study within this thesis examines the impact of ownership structure on accounting and market performance. The second study examines the impact of ownership structure and other corporate governance mechanisms (such as the board of directors, CEO characteristics and external auditors) on managers' opportunistic accounting discretion, as measured by unsigned discretionary accruals and revenues. The third study examines how investors perceive the impact of these governance structures. All three studies take into account whether the reforms helped to improve corporate governance.

The key findings of the first and second studies support the notion of an alignment effect, suggesting that high levels of ownership help to motivate most types of large shareholders to participate in the monitoring of firms. They suggest that high ownership concentration, especially by families, enhances firm performance and limits the use of managers' opportunistic accounting discretion. Other types of large shareholders appear to have only played a significant role before the reforms, suggesting that the reforms might have reduced the motivation or ability of blockholders to participate in monitoring. There is evidence that boards of directors failed to enhance firm performance and to limit the use of accounting discretion before and after the



reforms. The third study suggests that investors have an extremely negative perception of government and foreign company investors and, in turn, underestimate the performance of firms with high ownership by these shareholders. Investors also have negative perceptions of the size and independence of boards before the reforms. It appears that the reforms helped to mitigate their negative perception of boards, even though board efficiency did not significantly improve following the reforms.

The three sets of results contribute to our understanding of the particularities of corporate governance systems in emerging capital markets such as Thailand, which contradicts the view of the World Bank. Thailand's corporate governance reforms have been partly successful in remedying investors' loss of confidence in some key corporate governance structures. However, further understanding of key governance structures by policy makers and more efficient monitoring processes by regulators are needed in order to ensure that these mechanisms are applicable and function as efficiently as they are intended to in practice.

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## **Declaration**

*I hereby declare that this thesis is based on my own research. For the best of my knowledge and belief, no materials contained in the thesis have been previously submitted for a degree in this or any other institution.*

## **Statement of Copyright**

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*Karuntarat Boonyawat, April 2014*

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*namo tassa bhagavato arahato sammāsambuddhassa*  
*namo tassa bhagavato arahato sammāsambuddhassa*  
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## TO MY BELOVED PARENTS

*I dedicate this thesis to my beloved dad and mom who are my Phra Arahant.*

## **Chapter 1: Introduction**

### **1.1 Background and Research Questions**

Ownership concentration/Block ownership is an important source of power within a corporation. Nevertheless, imbalances between ownership, control and monitoring may provide opportunities for some parties to exploit others. For example, Berle and Means (1932) argue that dispersed owners of a corporation have little incentive and insufficient power to monitor managers and firms; without efficient monitoring, managers are able to gain almost complete control and reap private benefits with little cost to themselves.

Subsequently, academics have suggested that many corporations around the world still have combined ownership and control (for examples, see La Porta et al, 1999; Shleifer and Vishny, 1997). While this characteristic could reduce the conflict of interests between managers and owners, it may also lead to a conflict of interests between majority shareholders and minority shareholders. In an imperfect world, where transaction costs occur, there are likely to be agency problems, derived from conflicts of interest within corporations, and therefore there is a need for corporate governance in firms with dispersed or concentrated ownership, in order to minimise these conflicts (Hart, 1995a).

Both concentrated and dispersed ownership structures can cause conflicts of interest but, in each case, the conflicts occur between different groups of people. Corporate governance mechanisms that are designed and implemented in the context of dispersed ownership may therefore not work efficiently in the context of concentrated ownership.

For example, many mechanisms have been introduced in the past to solve the incentive problem in dispersed ownership contexts. Jensen and Meckling (1976) propose the use of managerial ownership to align managers' interests with those of shareholders. After the publication of their seminal paper, many firms introduced stock-based compensation and bonus schemes. Subsequent research has found evidence to support the alignment of

interest hypothesis where managerial ownership is not too high (e.g. see Cui and Mak, 2002; Davies et al., 2005; McConnell and Servaes, 1990; Morck et al., 1988; Short and Keasey, 1999). On the other hand, where ownership is concentrated, managerial ownership may not efficiently align managers' interests, as the theory suggests, because most owners in concentrated firms may intend to retain ownership and control.

Other mechanisms might not work efficiently. For example boards of directors are introduced to supervise managers (e.g. see Fama and Jensen, 1983). However, where ownership is concentrated, a director might not supervise managers effectively because she/he is the same person or comes from the same group as the managers (such as the same family).

This thesis focuses on the role of ownership structure and other corporate governance mechanisms in the context of Thailand. Following the Asian financial crisis of 1997, the World Bank claimed that poor corporate governance and, in particular, the existence of dominant shareholders who effectively controlled listed companies for their own interests were key contributing factors to the corporate crisis, which seriously affected Thailand's economy. Partly as a consequence of the World Bank's analysis and recommendations, the Thai government embarked on a high-profile program of corporate governance reforms from 1999 onwards in order to regain investor confidence in the capital market. Hence corporate governance mechanisms, especially the role of boards, have been underlined (through director training programmes or the requirement to introduce an audit committees, for instance) with the aim of increasing board efficiency.

The former Prime Minister Anand Panyarachun gave his view on the Thai corporate governance reform at the 2<sup>nd</sup> National Director Conference 2013, Thailand, on 12 June 2013:

“The establishment of the Thai Institute of Directors Association and the subsequent development of a corporate governance framework were a

direct response to that experience<sup>1</sup>. Thanks to the substantial efforts made in training thousands of company directors, and in promoting corporate governance awareness, many Thai companies – from banks to manufacturers – have made remarkable strides in enhancing their professionalism, and management and governance structure.

Yet we must acknowledge that significant gaps remain, both in the private and the public sectors. Improvements in corporate governance have been generally limited to listed companies, and even in that category, more can and needs to be done.

Amongst the listed companies, improvements are concentrated in the top echelon of companies that have diversified ownership or shareholder structures. Outside of these companies, corporate governance remains relatively weak, especially in the following three groups:

First, the large listed companies which are family-owned;

Second, the listed government-controlled state enterprises whose governance practices are becoming more and more worrisome;

The third – comprising the largest group of listed companies – is the midsize listed companies whose gaps in corporate governance are the greatest” (Panyarachun, 2013).

Hence high ownership concentration in Thai listed firms has been viewed as an obstacle to the function of other corporate governance mechanisms. Nevertheless, there is still no empirical evidence to support whether the international corporate governance frameworks, which have been developed in dispersed ownership contexts, can work efficiently in contexts of highly concentrated ownership such as Thailand and an emerging economy. Therefore, the three empirical studies in this thesis aim to provide more complete evidence.

The first empirical study (Chapter 4) examines the impact of ownership structure on firm performance and the second (Chapter 5) examines the impact of ownership structure and other corporate governance mechanisms, such as the board of directors, CEO characteristics and external auditors, on accounting discretion. The final study (Chapter 6) examines whether investors can correctly perceive the impact of ownership structure

---

<sup>1</sup> “[t]hat experience” refers to the Asian Financial Crisis in 1997, which affected to Thailand,

and other corporate governance mechanisms on firm performance. In addition, all three empirical studies take account of the Thai corporate governance reforms.

## **1.2 Research Motivations**

The three empirical studies in this thesis are conducted in the context of Thailand, an emerging economy that suffered from the Asian financial crisis and subsequently attempted to recover its capital market by the introduction of high-profile corporate governance reforms that were adopted from international corporate governance frameworks.

The first empirical study (Chapter 4) is mainly motivated by the comments of the World Bank, in which dominant shareholders, especially families, were cited as a key cause of the financial crisis even though, according to the existing literature, family ownership is one of the best structures in terms of reducing the agency problem within a corporation (for examples, see Bertrand et al., 2008; Fama and Jensen, 1983; James, 1999). Given that the corporate governance structures (in terms of legal shareholder protection and enforcement) were weak before the reforms, high ownership concentration may have acted as a substitute for the weak shareholder protection.

Research from Thailand, prior to the crisis, reveals that Thai listed firms with dominant shareholders, especially families, performed better than those without dominant shareholders (Wiwattanakantang, 2001; Yammeesri, 2003; Yammeesri and Lodh, 2004). However, this research was conducted over short periods, before and after the 1997 financial crisis.

A limitation of short-term empirical study may accurately provide the impact of ownership structure on firm performance within a limited time frame but may not efficiently reflect the impact's change since the corporate governance reforms. In fact the reforms that partly aim to strengthen roles of board of directors and rights of shareholders, especially minority shareholders may unintendedly reduce a motivation of large shareholders/dominant shareholders to contribute to firms. The stronger corporate

governance may also motivate these shareholders to seek for a leeway to protect their interests.

Ownership concentration is an important governance mechanism, especially in emerging economies that could affect to an efficiency of other governance mechanisms. Therefore, an interesting question is whether the impact of ownership structure on firm performance changes after the significant changes in corporate governance reforms. An appropriate answer to this question would extend an understanding on existing literature about the role of ownership structure on firm performance where other corporate governance mechanisms are stronger. Additionally, it may potentially benefit to policy makers for developing appropriate governance policies in the context of emerging economies.

Therefore, this study is motivated by these reasons to re-examine the impact of ownership structure on firm performance over a longer period, from 1994 to 2007, which covers two major events in Thailand: the financial crisis and the corporate governance reforms.

The contradiction between the views of the World Bank and the findings of research also provide motivation for the second empirical study (Chapter 5) to investigate whether the superior performance of concentrated firms with dominant shareholders is partly due to the opportunistic use of managers' accounting discretion to manipulate earnings, for example.

In fact, the large corporate scandals during the last decade, even in developed capital markets such as the US and the UK, have revealed that accounting discretions were used by managers to provide misleading information on firms' financial positions and performance (Giroux, 2008; Jensen, 2005). While accounting standards allow managers to exercise their judgment over financial reporting so that it reflects position and performance more accurately, the scandals have created a negative assumption that accounting discretions are used opportunistically (Jiraporn et al., 2008). Academics and policy makers have therefore focused on the role of ownership structure and other



corporate governance mechanisms in the prevention and detection of opportunistic accounting discretion, as in the Sarbanes-Oxley Act of 2002 in the US.

In Thailand, since the financial crisis, the Thai government has been committed to improving the reliability and integrity of financial reporting (World Bank, 1998) and the corporate governance reforms have included accounting standards reform. Thai accounting standards have been gradually adjusted in line with international financial reporting standards, with the ultimate aim of fully adopting them.

Research from the US (for example, Wang, 2006) suggests that ownership structures, such as family ownership, contribute positively to the quality of financial reporting. However, research in the context of East Asian countries including Thailand reports lower quality of reported earnings due to high ownership concentration. It is argued that this structure reduces the incentive and motivation for the preparers of financial reports to report high quality earnings (Ball et al., 2003) and increases opportunities for them to mislead the markets (Fan and Wong, 2002). Therefore, the second empirical study is motivated to investigate whether ownership concentration facilitates or limits managers' opportunistic accounting discretion (such as discretionary accruals and revenues) and whether the reforms have helped to reduce it.

The two empirical studies mentioned above focus on the role of ownership structure and other corporate governance mechanisms in mitigating the agency problem. However, the investors' point of view on the role of these mechanisms is still missing.

With very limited evidence from the existing literature, the third empirical study (Chapter 6) attempts to provide a clearer understanding about whether investors can correctly perceive the impact of ownership structure and the role of corporate governance on firm performance. The way investors think about these structures may affect how they value firms, regardless of whether the corporate governance system actually works well or not in practice.

The third study is also motivated by the key objective of the corporate governance reforms to regain investor confidence in the capital market; the success of the reforms is subject to how well the government can educate investors to perceive the role of corporate governance structures and their impact on firms more accurately.

### **1.3 Contributions to Knowledge**

This thesis contributes to the literature on ownership structure and corporate governance reforms in several ways.

Chapter 4 provides more complete evidence on the impact of ownership structure on firm performance. Although most of Thai listed firms are owned by family blockholders, there still is a presence of other types of blockholders in many listed firms. Therefore, this study investigates the impact by considering key different types of shareholders, which are family, government, foreign investors, banks and non-bank financial institutions. Theoretically, each shareholder's type has its own motivations and incentives to hold substantial shares in firms. Therefore, evidence of this chapter may contribute to a current knowledge about the role of different types of shareholders to monitor firms within the same institutional environments, Thailand.

Using a unique set of data from Thailand, this study effectively identifies the ultimate shareholders in listed firms and therefore benefits from an improved quality of ownership data. It covers periods before and after the financial crisis and the corporate governance reforms. This allows the study to explore whether the impact of ownership structure on firm performance significantly changes after the corporate governance reforms. Hence it impliedly adds to a growing body of literature on whether corporate governance reforms actually result in benefits to firms in the context of emerging economies.

The evidence from Chapter 5 adds to the limited literature in the context of emerging markets about the impact of ownership structure and other corporate governance mechanisms (such as board structure, CEO characteristics and auditor reputation and

expertise) on managers' opportunistic accounting discretion and provides evidence of whether the reforms have helped to limit opportunistic behaviour. This study applies accruals-based approaches (such as the cross-sectional Jones and modified Jones Models) and revenue-based approaches (Stubben, 2010) in order to measure managers' accounting discretion and attempts to improve the measurement of accounting discretion by integrating both approaches.

Evidence from this chapter may contribute to an integrated literature on accounting and corporate governance about the roles of the various types of ownership structure and corporate governance mechanisms on quality of financial reporting in the context of high ownership concentration. It also may provide an evidence of whether the corporate governance reforms have made any significant influence to the impacts in turn either limiting or enhancing the use of managers' opportunistic accounting discretion.

Chapter 6 contributes to the very limited literature on investor perceptions by providing evidence in more general cases on how investors perceive the impact of ownership structure and other corporate governance mechanisms on firm performance. This study applies the naïve hypothesis (Sloan, 1996) and OLS methodology (Kraft et al., 2007) that is typically used in accounting research to investigate investor perceptions of ownership structure and other corporate governance mechanisms in Thailand.

Evidence from this chapter may contribute to the knowledge of literature whether investors' perception on ownership structure and other corporate governance mechanisms influence to the way investors use financial and non-financial information to predict firms' future performance. The results may provide an indication of the success of the Thai corporate governance reforms by confirming whether the reforms that aimed to promote the role of boards of directors and the transparency of financial reporting and disclosure actually helped to improve the accuracy of investor perceptions.

Finally, evidence from all three empirical studies contributes to our understanding of the impact of ownership concentration and other key governance mechanisms on firm performance, accounting discretion and investor perceptions before and after the Thai

corporate governance reform. They also provide evidence whether the reforms help to improve these impacts. These would provide a basis on which policy makers and regulators could design suitable corporate governance systems for the Thai capital market that might be applicable in other emerging economics.

## **1.4 Thesis Structure**

This thesis includes seven chapters. Three of them are empirical studies on the impact of ownership structure and other corporate governance characteristics on firm performance, managers' accounting discretion and investors' perception of corporate governance variables, respectively.

Chapter 2 provides a theoretical framework on agency theory, which forms the basis of understanding of the roles of ownership structure and corporate governance, and briefly discusses the main differences in corporate governance between developed and emerging economies.

Chapter 3 explores the corporate governance system in Thailand in order to build up a picture of how governance mechanisms worked and how they may be expected to have improved after the reforms.

The first empirical study on the impact of ownership structure on firm performance before and after the reforms is discussed in Chapter 4.

Chapter 5 presents the second empirical study, which examines the impact of ownership structure and other corporate governance mechanisms on managers' accounting discretion before and after the reforms.

The third empirical study, reported in Chapter 6, investigates whether investors correctly perceive the impact of ownership structure and other corporate governance mechanisms on firm performance before and after the reforms.

Finally, Chapter 7 provides concluding remarks, addresses some research limitations and provides suggestions on potential topics for future research.

## **Chapter 2: Agency Theory, Ownership Structure and Corporate Governance: An Overview**

### **2.1 Introduction**

This chapter reviews agency theory in order to frame theoretical explanations of the role of ownership structure and corporate governance mechanisms in firm performance, managers' accounting discretion and investor perception. The beginning of this chapter explains briefly the nature of the firm, as developed in economic theory, which is the basis for the development of agency theory.

In the second section, agency theory and agency problem are explored in general and in the context of a modern corporation. A seminal argument of Berle and Means (1932), about the separation of ownership and control in modern corporations, is discussed in the third section. The fourth section discusses the roles of different types of ownership structure in the agency problem, while the fifth looks at motivation and its implication for the types of shareholders. The sixth and seventh sections present the roles of corporate governance and some corporate governance mechanisms aiming to reduce the agency problem. The final section provides a chapter summary and conclusion.

### **2.2 Theories of the Firm: Definitions of a Firm**

Neo-Classical economists view the firm as a “black box” that is driven by its production functions (i.e. demand and supply) (Figure 2.1). A firm is assumed to be operated by a self-interested owner-manager, who chooses levels of inputs ( $x_n$ ) and outputs ( $Q$ ) that maximise profit or minimise cost in a “perfect” environment, i.e. one in which all contracts are completed and are enforced without cost (Jensen, 1983).

This traditional theory, however, says nothing about the technology used in production or the motivation of actors (i.e. employee and employer) to make decisions and initiate processes that maximise profit (Simon, 1997). Therefore, the theory ignores internal

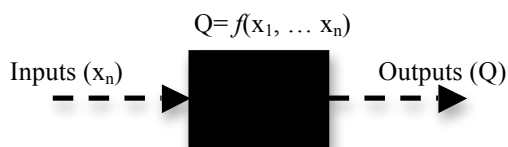
organisation problems involving people, and the role of information within the firm – making the black-box firm far from a reality (i.e. Fama, 1980; Hart, 1995a; Jensen, 1983).

To broaden the traditional theory, a firm is viewed as “a legal entity that serves as a nexus for a complex set of contracts (written and unwritten) among disparate individuals” (Jensen, 1983: 326) (Figure 2.2). The agents in a contractual relationship include not only employees but also others, such as suppliers, creditors and customers. According to Jensen (1983:327), this definition recognises the firm as “the complex contractual system” in which conflicting objectives of contract parties are maximised to achieve equilibrium. In this view, the firm is not treated as an individual that can operate itself; indeed, it is likely that the behaviour of firms is affected by the behaviour of the contract agents. On the other hand, the contract agents’ behaviour is also influenced by “internal rules”<sup>1</sup> specified in the contract (Jensen and Meckling, 1976).

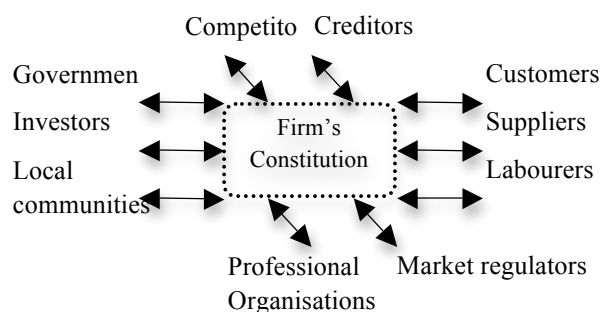
The traditional view of a firm is still useful in developing theories to help us understand, for example, how a price system affects resource allocation and production output. In addition, to treat a firm as a nexus of contracts helps economists to think of it in a way that is closer to the reality of firms, which are faced with problems in the areas of motive and preference (Demsetz, 1983; Jensen, 1983). This definition also helps economists to understand how the owners of a firm interact with different agents, with different objectives and levels of risk-bearing, in order to achieve profit maximisation (Laffont, J., 2002), and how contract agents respond to changes in the contract environment (Jensen, 1983).

---

<sup>1</sup> In general, the “ internal rules” specified in the contract consist of at least three systems: 1) the assigned decision rights of each contract agents, 2) the system of performance evaluation and 3) the payoff (reward) system (Fama and Jensen, 1983; Jensen, 1983). Similarly, Fama and Jensen (1983) argue that the contract structure contains 1) rules about the distribution of “residual claims” (the rights of each contract party) and 2) rules that govern the “decision process” (including performance criteria and payoff).



**Figure 2.1:** Firm as a black-box firm



**Figure 2.2:** Firm as a nexus of contracts

## 2.3 Agency Theory

Agency theory has been developed in the light of contractual frameworks, focusing mainly on incentive problems arising from differences in objectives and risk preferences among contract parties (Eisenhardt, 1989). According to Jensen and Meckling (1976: 308), an “agency relationship” occurs under a contractual framework between two or more persons, when one person (the principal) engages another person (the agent) to perform specific work on his/her behalf. The principal delegates the tasks, together with decision rights over his/her assets, to the agent and offers them payment through the contract. The relationship is commonly found in wider society<sup>2</sup> and expands to multiple principals, multiple agents and multiple actions and decisions (Hart, 1995a).

Agency theory is built on two basic behavioural assumptions. Firstly, both principals and agents are assumed to be rational<sup>3</sup>, making decisions that maximise their utility. Secondly, given specific opportunities, both principal and agent can also engage in opportunism, derived from “self-interests seeking with guile” (Williamson, 1996: 6).

Self-interest and incentives of individuals are the main sources of opportunistic behaviour (Jensen, 1994; Williamson, 1996). Simon (1997: 88) suggests that it is necessary to think about “rationality” together with “human selfishness and struggles for

<sup>2</sup> For example, the relationships between doctors and patients, employees and employers, lawyers and clients or shareholders and managers are all principal-agent relationships.

<sup>3</sup> Rational behaviour is defined by Simon (1997:88) as a “human behaviour that is intendedly rational, but only boundedly so.” This definition suggests that an individual intends to make a “comprehensive rational economic decision” to maximise their utility (for example). However, they cannot always do so because of their cognitive limitations (for example).

power”, because selfishness and power cause individuals to “strive rationally to advance their own personal goals” rather than those of the organisation. Therefore, if opportunities are recognised, rational humans always choose options in which they are better off (Jensen, 1994).

There are many forms of opportunistic behaviour recognised in existing literature (such as cheating, perquisites, shrinking, stealing and distorted information) in which hidden actions provide benefits to one party (the agent) but create expenses for other parties (the principals) (Clegg and Balley, 2008; Jensen and Meckling, 1976; Nagin, 2002; Schipper, 1989).

Since an agent may not perfectly act for the best interests of the principal, it is likely that the principal will have a strong motivation to minimise costs incurred from the incentive problem (i.e. agency costs) through, for example, monitoring or bonding (Jensen, 1994; Jensen and Meckling, 1976).

### **2.3.1 Agency Problem: A General Framework**

The agency problem arises when an agent uses delegated power over a principal’s assets on behalf of his/her own interests rather than those of the principal. Asymmetric information and transaction costs are the key factors that make the problem significant. Without these two constraints, the principal and the agent have the same information, in the sense that the actions of the agent are observable and verifiable by the principal without cost. In addition, the principal may solve the agency problem by writing a comprehensive contract that covers all possible future events and by designing monitoring<sup>4</sup> to observe, verify and control the agent’s actions. The principal may also motivate the agent by introducing an incentive scheme that ties payment to observed performance. In reality, writing the comprehensive contract and implementing monitoring and enforcement are costly (Fama and Jensen, 1983).

---

<sup>4</sup> According to Jensen and Meckling (1976), monitoring includes a principal’s efforts to control the behaviour of its agent such through an incentive scheme, compensation or operational rules.



According to Hart (1995a), transaction costs incurred from uncertainty, inefficient negotiation and enforcement limit a principal's scope for writing a complete contract; it is difficult for one to know and to plan for future contingencies. It is also difficult for principals to negotiate between contract parties to reach a complete contract and to make it enforceable by third parties such as a court<sup>5</sup>. Revising or renegotiating during a contract's life may also be costly. Therefore, it is likely that a principal will write an incomplete contract, which "contains gaps and missing provisions" (Hart, 1995a: 23). This implies that a gap of information remains between the principal and the agent.

When a contract is incomplete, divergence of interests between the principal and the agent becomes a problem only if there is an asymmetry of information between the principal and the agent (Hart, 1995a; Simon, 1997). A skilled agent, who is directly involved in a work process, has opportunities to access inside information, which the principal may not know. Information gaps make it difficult for a principal to completely supervise, monitor and evaluate the actual actions and performance of an agent (this is known as "moral hazard") (Fama, 1980). It is also difficult for a principal to identify the ability of an agent to carry out delegated tasks (known as "adverse selection"). In addition, it is hard for a principal to make the agent understand his/her actual objectives (Simon, 1997).

According to Jensen and Meckling (1976), agency cost incurred from the principal-agent relationship is defined as the sum of three costs: 1) monitoring costs, to the principal; 2) bonding costs, to the agent; and 3) residual loss. Monitoring costs arise when a principal attempts to control an agent by implementing monitoring activities such as auditing, incentive plans, budget restrictions or operating provisions. Bonding expenditures are paid by an agent to guarantee that they will avoid activities that are harmful to the principal's wealth, or to compensate for the loss from such activities. In reality, it is hard to believe that monitoring and bonding activities can perfectly control an agent's actions. Therefore, a remaining cost incurred from a divergence of an agent's decision is termed

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<sup>5</sup> For example, the role of the courts is more costly in the US than other countries (Shleifer and Vishny, 1997) and legal processes take time.

“residual loss”. Jensen and Meckling (1976) assert that agency costs may arise in any activities in society that relate to “corporate effort” such as in hospitals, universities or corporations.

### **2.3.2 The Agency Problem in an Open Corporation: The Separation of Ownership and Control**

It is worth noting a definition of property rights or ownership of assets because it determines how costs and benefits are distributed to participants in firm (Jensen and Meckling, 1976), particularly when a contract is incomplete (Hart, 1995a). Property rights (or ownership of assets) is the right to use assets, the right to receive returns from the assets, the right to change the assets’ form or substance or to transfer all or some parts of the rights to the assets (i.e. sell or rent) (Furubotom and Pejovich, 1972, 1974 cited in Williamson, 1996: 222). When the contract is not specified, Hart (1995a) asserts that the owner of the assets has “residual control rights”<sup>6</sup> to decide what to do with the assets. The owner also bears risks incurred from exercising property rights over the assets (Fama and Jensen, 1983).

A corporation is one form of organisation. It seeks external financial resources by selling prospective returns to those who supply capital, either in the form of debt (i.e. creditors) or equity (i.e. shareholders) (Alchian and Demsetz, 1972). In an open corporation<sup>7</sup>, the property rights of the corporation (residual claims) are distributed in the form of common stocks, which are associated with rights to the corporation’s net cash flows to the shareholders who supply funds (residual claimants) (Fama and Jensen, 1983). The residual claims attached to common stock are unrestricted and can be “freely alienable”<sup>8</sup>.

---

<sup>6</sup> Normally, an owner of an asset has both a “residual control right” over the asset and a “residual income” from the asset. For example, a shareholder has a right to vote and has a right to receive dividend or capital gain from a share. Nevertheless, a share may not have one-share one-vote feature.

<sup>7</sup> In the work of Fama and Jensen (1983), the term “open corporation” is used instead of “public corporation” to describe a corporation traded in the capital market, because the latter term can mean a state-owned organisation. An open corporation is distinguished from a closed (private) corporation in the sense that it is supplied capital by outsiders, who have residual claims on the corporation (i.e. it is traded in the capital markets) (Fama and Jensen, 1985). The open corporation is also complex in the sense that special knowledge is difficult to transfer among the contract agents (Fama and Jensen, 1983).

<sup>8</sup> i.e. Shareholders can sell or transfer their common stocks to others without the approval of other shareholders (Alchian and Demsetz, 1972).

In addition, shareholders, who own common stocks, are not required to participate in a corporation's operation (Fama and Jensen, 1983).

In practice, it is less efficient for a corporation to have all shareholders<sup>9</sup> participating in every decision; it may increase bureaucratic costs (i.e. salaries and perquisites) or increase opportunities for small shareholders to shirk their tasks<sup>10</sup> (Alchian and Demsetz, 1972). In addition, specific knowledge relevant to different decisions in the open corporation is likely to be diffused among the contract agents (Fama and Jensen, 1983). Therefore, shareholders are likely to delegate their decision making to an agent or group of agents who have valuable, relevant and specific knowledge and skills (i.e. management). Management takes a role as a coordinator of the corporation in order to operate and make decisions on the allocation of a firm's resources on behalf of shareholders' interests (Fama, 1980). Therefore, the relationship between shareholders and managers of a corporation clearly is an agency relationship (Jensen and Meckling, 1976; 309). If shareholders and managers can access the same information without transaction costs, the agency problem and the concept of ownership is irrelevant (Fama, 1980).

In respect to large, modern corporations, Berle and Means (1932: 9) raise a concern over a separation of ownership and control, as they state in their classic book, "The Modern Corporation and Private Property".

"It has been assumed that, if the individual is protected in the right both to use his property as he sees fit and to receive the full fruits of its use, his desire for personal gain, for profits, can be relied upon as an effective incentive to his efficient use of any industrial property he may possess.

In the quasi-public corporations, such an assumption no longer holds. As we have seen, it is no longer the individual himself who uses his wealth.

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<sup>9</sup> Alchian and Demsetz (1972) propose that shareholders of corporation are viewed as "investors" who are more optimistic than other investors (i.e. bondholders) about firm's future performance, rather than being viewed as "joint owners" in the sense of traditional owners. Shleifer and Vishny (1997) use a term "financier" for referring to investors who provide funds to the corporation and expect future returns from their funds.

<sup>10</sup> This is because costs from making poor decisions are distributed not only to the shareholder who makes the poor decisions but also to other shareholders.

Those in control of that wealth, and therefore in a position to secure industrial efficiency and produce profits, are no longer, as owners, entitled to the bulk of such profits. Those who control the destinies of the typical modern corporation own so insignificant a fraction of the company's stock that the returns from running the corporation profitably accrue to them in only a very minor degree. The stockholders, on the other hand, to whom the profits of the corporation go, cannot be motivated by those profits to a more efficient use of the property, since they have surrendered all disposition of it to those in control of the enterprise."

Berle and Means (1932) claim that modern corporations, open corporations owned by many small shareholders, have increasingly dominated the organisational structures of large U.S. corporations since the 1930s. The diffused corporation leads to a divorce of ownership from control. According to their thesis, shareholders diversify their investment risks by investing a little in each corporation. High diversification reduces shareholders' motivation to participate in the firm by, for example, being active in management or providing efficient monitoring to limit the misconduct of managers. At the same time, managers, who hold little or no shares in the corporation, are delegated power over the firm's resources. In other words, the property rights over a corporation's assets can be separated into "passive property", which gives rights but no control to shareholders, and "active property", which allows managers control with a little ownership. The separation of ownership and control creates opportunities for managers to enjoy private benefits at the expense of shareholders.

Jensen and Meckling (1976) point out that it is likely that the large open corporation with diversified shareholders will face agency problems. They assert that "[i]t should be no surprise to discover that the issues associated with the 'separation of ownership and control' in the modern diffuse ownership corporation are intimately associated with the general problem of agency" (Jensen and Meckling, 1976; 309).

Nevertheless, Berle and Means' argument has been controversial among academics who contest whether the owners of modern corporations actually ignore their control over corporations and leave it to the managers. Demsetz (1983: 393) argues that "[i]n a world in which self-interest plays a significant role in economic behaviour, it is foolish to

believe that owners of valuable resources systematically relinquish control to managers who are not guided to serve their interests.” Demsetz (1983) asserts that, when necessary, dispersed shareholders will become sufficiently concentrated to provide guidance or to vote against opportunistic management. The concentration of ownership, particularly after incidences of poor performance, only partly solves the problem. To ensure against management opportunism, shareholders demand a continuous monitoring process, a board of directors or executive compensations, to oversee managers and protect their interests.

In addition, competitive markets, in particular the market for corporate control, the managerial labour market and the stock market can limit managers’ opportunistic behaviour (for examples, see Demsetz, 1983; Fama and Jensen, 1983). For example, Fama and Jensen (1983) suggest that the stock market can create a pressure for corporate managers to align with shareholders’ interests because of the demand for capital financing, for example. Because stock price reflects corporate current and future performance, it also reflects the managers’ performance. Therefore, dissatisfied shareholders can either sell their stocks or collect them to vote against poor managers in a tender offer or proxy fight.

Similarly, Fama (1980) proposes that the managerial labour market can help to resolve the incentive problem by disciplining managers. Assuming that the capital market is efficient, managers’ wages and compensation are likely to depend on their performance. Shareholders can assess managers’ performance via past and current corporate performance and revise their contracted wages accordingly. In addition, the market perception of a manager’s ability is likely to be remembered and to affect his/her future wages if they switch to new firms. Poor managers are therefore punished for poor performance. The “wage revision process” can motivate managers not to deviate from shareholders’ interests. Nevertheless, the success of this mechanism is subject to sufficient weight in the wage revision process to resolve possible problems from managers’ incentives.

Later evidence on ownership concentration in many open corporations inside and outside the US. further weakens the argument of Berle and Means on the separation of ownership and control (for example, see Demsetz, 1983; Demsetz and Lehn, 1985; Gugler et al., 2008; Holderness and Sheehan, 1988; Shleifer and Vishny, 1986, for evidence in the US and see Berglöf and Perrotti, 1994, Carney and Child, 2013; Claessens et al. 1999, 2000; Gorton and Schmid, 2000; Gugler et al., 2008; Kang and Shivdasani, 1995; La Porta et al., 1999; Prowse, 1992; and Wiwattanakantang, 2001 for evidence outside the US).

Although, Berle and Means' argument has been controversial among academics, it has been widely cited and has become a primary concept of corporate governance development<sup>11</sup>.

## **2.4 Ownership Structure, Control, and the Agency Problem: Theoretical Explanation**

In the context of a corporation, Grossman and Hart (1986) suggest that ownership (in the form of common shares) is a source of shareholders' "residual rights of control", giving shareholders the right to participate in the corporation. Therefore, the size and distribution of ownership has an important effect on the degrees of power and incentive that shareholders have to monitor in the corporation.

Existing research normally classifies ownership structure into two main types based on the distribution of common shares (with voting rights) among shareholders. Ownership is dispersed if common shares with voting rights are distributed to many small shareholders and each shareholder owns a small fraction of the shares in the firm. In contrast, ownership is concentrated if significant fractions of shares with voting rights are distributed to individuals or small groups of shareholders. Both dispersed and concentrated ownerships can create serious agency problems if the distribution of ownership and control is inappropriate and monitoring is weak.

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<sup>11</sup> For example, in the establishment of the U.S. SEC since 1934 and the development of the OECD principles of corporate governance since 1999.

### **2.4.1 Dispersed Ownership and the Agency Problem**

Dispersed ownership limits shareholders' motivation and power to participate in monitoring processes. Monitoring is costly and time-consuming (Diamond, 1984). It is no surprise that diffused shareholders may not engage in monitoring because the costs may exceed their residual rights to a firm's profits. In addition, each diffused shareholder has a certain amount of control over a firm, relative to his/her level of ownership. Therefore, it is not easy for individual shareholders to successfully vote against managers or to collect voting rights to challenge managers.

At the same time, control is concentrated in hands of the managers, who enjoy free exercise of control over a firm's resources (La Porta et al, 1999: 471). Under these circumstances, the separation of ownership and control in dispersed corporations widens the gap of information between managers and shareholders and can lead to serious conflicts of interests between managers (agents) and shareholders (principals).

For example, Gogineni et al. (2012) report that the agency problem is more severe in open corporations than in private firms with single owner-managers. In addition, they found that firms that move from being private firms to being open corporations experience more agency problems. This is evidence of the free-rider problem, in which diffused shareholders have less incentive to bear the costs of monitoring.

This characteristic of ownership and control mostly exists in large corporations, particularly in developed countries such as the US (for examples, see Berle and Means, 1932) and the UK (for example, see Goergen et al., 2005: 287).

### **2.4.2 Managerial Ownership and Agency Theory**

Separation of ownership creates opportunities for self-interested managers to engage in opportunistic actions by, for example, increasing their wealth via excessive compensation, perquisites or shirking, without sharing the costs.

The earliest literature on ownership structure and firm performance attempts to solve the agency problem in dispersed firms, incurred via the conflict of interests between managers and shareholders.

Jensen and Meckling (1976) propose that the fractions of shares owned by managers are theoretically linked to managers' incentives. In particular, they suggest that, with higher ownership stakes, managers have more incentive to maximise firm value with less consumption of executive perks, because they share wealth and loss like other shareholders. Therefore, Jensen and Meckling (1976) suggest that managerial ownership can help to minimise agency cost by aligning the interests of shareholders and managers, leading to higher firm performance (an "alignment effect").

However, another strand of literature posits "an entrenchment effect" in firms where managerial ownership is too high (Stulz, 1988). Managers with more voting power can protect themselves from internal or external control and discipline (Morck et al., 1988; Denis and McConnell, 2003; Lins, 2003). It is also difficult for other shareholders to dismiss poorly performing managers who have significant voting rights in a firm; managers become entrenched if they hold too many shares in the firms.

In contrast, Demsetz (1983) and Demsetz and Lehn (1985) argue that ownership structure is designed by each organisation to be at the optimal level at which profits are maximised. In other words, the owners of a company have always traded off between benefits and costs by being diffused or concentrated, due to market pressures. Managerial ownership levels are therefore expected to be endogenously determined and to reflect the existence of other corporate governance mechanisms such as managerial labour markets (Fama, 1980), the market for corporate control (Fama and Jensen, 1983), the composition of the board of directors (Fama and Jensen, 1983) and the competitiveness of product markets (Demsetz, 1983). This suggests, for example, that, in order to avoid a discount on the market value of a firm (as investors expect to be at risk from managerial exploitation), owner-managers adjust their managerial ownership and introduce alternative corporate governance mechanisms to maximise a firm's value.



However, this theory is based on the assumption of perfect market efficiency. In practice, markets are not always efficient; capital markets, in particular, often suffer from limited transparency and asymmetric information (Fan and Wong, 2002; Healey and Palepu, 2001; McConnell et al., 2008). Therefore, in practice, the imperfections of capital markets prevent firms from achieving their optimum investment (ownership) structures.

### **2.4.3 Concentrated Ownership, Dominant Shareholders and the Agency Problem**

In corporations, the voting rights and cash-flow rights associated with common shares influence the behaviour of shareholders towards their firms. While cash-flow rights affect shareholders' wealth (dividend or capital gains), control rights give shareholders the power to monitor managers and to protect themselves against being exploited by managers (Shleifer and Vishny 1997). As a result, incentives and the power of shareholders to monitor managers should increase when they hold substantial shares in firms.

Ownership and control may not be absolutely separated in firms with concentrated ownership. A presence of one or more large shareholders/dominant shareholders is also common in firms with concentrated ownership. These shareholders are known as "dominant shareholders" or "controlling shareholders". It is worth noting that the term, dominant shareholders, refers to shareholders who own, either directly or indirectly, substantial voting shares in firms and gain efficient control over the firms' operations and policies. Theoretically, the number of shares owned by dominant shareholders should increase their ability to control and their incentive to control them. Dominant shareholders with significant control are more likely to participate in the operations, major decisions and policies of a firm. In many cases, they also take a management role in the firms – as chief executive officers or directors, for example.

The number of outstanding shares with voting rights that identifies a shareholder as "dominant" ranges from 10% to 50% (Dharwadkar et al., 2000; La Porta et al., 1999;

Shleifer and Vishny, 1997). Hence no absolute proportion of shares indicating “control” is suggested by existing research. Nevertheless, Wiwattanakantang (2001) suggests that it is worthwhile for researchers to identify a threshold of control based on the economic and legal environment of each country.

According to agency theory, dominant shareholders have more incentive to supervise managers’ performance because they would share any substantial loss of wealth incurred from a corporations’ performance and they have sufficient power to do so, with lower expenses. In terms of alignment of interests, other shareholders also benefit from monitoring provided by dominant shareholders (Barclay and Holderness, 1992; Holderness, 2003).

However, if the dominant shareholders are concerned only with their own interests, they may put pressure on managers to act for their private benefit (Burkart et al., 1997; Dharwadkar et al., 2000; Holderness, 2003; Young et al., 2008). Such benefits may take many forms and might include transfer pricing (via related party transactions) or benefits in terms of personal satisfaction and reputation (Hart, 1995b). Therefore, this characteristic of ownership can create another serious agency problem, arising because of conflict of interests between two groups of principals (dominant and minority shareholders).

Concentrated ownership with dominant shareholders is commonly found in European, in Asian countries and in some corporations in the US. For example, La Porta et al. (1999) reveal that 36% of the firms in their sample (from 27 wealthy economies) are widely held<sup>12</sup> while 30% and 18% are owned by family and government, respectively. In addition, concentration is more obvious in emerging countries such as Thailand, Indonesia and Malaysia (for example, see Claessens et al., 2000).

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<sup>12</sup> La Porta et al. (1999) define “widely held” firms as firms that do not have dominant shareholders directly or indirectly owning in excess of 10% or 20% of shares.

### 2.4.4 Control Mechanisms

According to Grossman and Hart, (1986) and Hart (1995a), owners of assets should ideally have significant residual rights and residual incomes generated from their assets. If the residual rights and residual incomes are not complementary, it may lead to inefficient use of corporate assets. For example, if A has control over “asset A” but B has substantial rights to income generated from it, A would have less incentive to use “asset A” efficiently because most of the income will be given to B. B also has less incentive to operate “asset A” more profitably because he has to ask A for asset usage. This situation creates a “hold-up problem”.

In practice, it is possible that a relationship between residual rights and residual incomes is not on a one-by-one basis (Hart, 1995a). For example, in cases of dual-class shares with different voting rights or joint ventures in which both parties have the same proportion of control over joint assets but have different proportion of shared profit. Evidence from literature also confirms that ownership (cash-flow rights) and control (voting rights) may not align perfectly in reality (Becht, 1997; Bennedsen and Nielsen, 2010; Claessens et al. 2000; La Porta et al., 1999; Lemmon and Lin, 2003; Lins, 2003).

There are several mechanisms, such as pyramidal structures, dual-class shares and cross-shareholding structures, that dominant shareholders can use in order to accumulate more control rights than cash-flow rights (La Porta et al., 1999; Bebchuk et al., 2000; Bennedsen and Nielsen, 2010; Claessens et al., 2000). These mechanisms allow dominant shareholders to hold smaller fractions of shares while they still have substantial control over companies. As a result, they can consume private benefits without sharing the full cost of their exploitation.

According to Bebchuk et al. (2000), dual-class shares are a mechanism in which firms issue one or more classes of stock with different voting rights, deviating from the one-share-one-vote<sup>13</sup> feature of shares. For example, a firm can devise to attach more voting

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<sup>13</sup> One-share-one-vote refers to shares that have votes in the same proportion to their residual claims (Grossman and Hart, 1988).

rights to shares for dominant shareholders and non-voting rights to shares sold to outside shareholders. Nevertheless, the use of this mechanism is prohibited by the law in some countries, such as Thailand (Bebchuk et al., 2000; Wiwattanakantang, 2001).

Pyramidal ownership structure is another control mechanism. This structure involves a process of control in which an ultimate shareholder controls firms via layers of firms (Wiwattanakantang, 2001). For example, if an ultimate shareholder has substantial control over Company A while Company A has substantial control over Company B. As a result, ultimate shareholder controls Company B via Company A. This mechanism is commonly used outside the US, especially in Asian countries (Bebchuk et al., 2000; La Porta et al., 1999; Claessens et al., 2000). However, pyramidal structure is not as popular in Thailand as in other Asian countries (Claessens et al., 2000; Wiwattanakantang, 2001).

Cross-shareholding structures are an alternative to pyramidal ownership structures (Bebchuk et al. 2000) and are characterised by horizontal cross-holdings of shares within the same group of companies. Hence control is distributed across companies in the group instead of being distributed only to an ultimate shareholder. This structure can facilitate the power of the central controller of a group.

The use of control mechanisms creates opportunities for ultimate shareholders who are dominant shareholder to exploit corporate resources without directly holding a block of shares and fear of the market for corporate control (Burkart et al. 1997; Bebchuk et al., 2000). For example, dominant shareholders may wish to increase their capital without losing their control. They could do so by issuing shares with low dividend payments but more voting right than common shares. Hence this mechanism is intended by dominant shareholders to isolate the firms from market for corporate control (Grossman and Harts, 1988).

## **2.5 Who Owns the Firm? Shareholders' Identities, Incentives and Implications**

Shareholders represented in corporations come from various groups of people. For example, institutional blockholders have significant influence over firms in the UK (for example, see Hart, 1995b) and the US (Gugler et al., 2008). In China, firms are dominated mostly by the state (Liu and Sun, 2005). Additionally, family shareholders are found mostly in Asian countries such as Thailand (Carney and Child, 2013; Wiwattanakantang, 1999, 2000, 2001). Limited rationality and self-interested assumptions imply that different types of shareholders have their own motivations and objectives for holding shares in firms, which in turn affect their behaviour towards the firms (for examples, see Denis and McConnell, 2003; Gugler et al., 2008).

### **2.5.1 Family**

In general, the term “family firm” is used by researchers to refer to a firm that is owned and/or controlled by individuals or one/more groups of family members and/or across generations (for examples, see Anderson and Reeb, 2003; Villalonga and Amit, 2006). In addition, large family-owners normally have an influence on management decisions either by directly holding top management positions (such as CEO) or by indirectly controlling firms as board of directors (Bennedsen and Nielsen, 2010). However, criteria to identify a family firm are not identical across research (Miller et al., 2007).

Differences in the factors used to identify a family firm in existing research include (1) a difference in the minimum threshold of shares owned by family blockholders, ranging from at least 5% (for examples, see Allen and Panian, 1982; Claessens et al., 2000) to more than 50% of voting shares (for examples, see Ang et al., 2000); (2) family members in different board positions, such as CEO, chairman or honorary chairman (for examples, see Claessens et al., 2002; Bennedsen et al., 2010); and (3) the way in which researchers identify the founders of a firm, their descendants or family relationships (for examples, see Claessens et al., 2002; Cronqvist and Nilsson, 2003; Miller et al. 2007).

For example, a firm is defined as “a family firm” if a firm’s founder or members of the founder’s family hold positions as CEO or other positions on the board of directors and/or as blockholders (Anderson and Reeb, 2003; Villalonga and Amit, 2006). In addition, family relationships may include direct relationship by blood or marriage, such as fathers, mothers, sisters, brothers, sons, daughters and spouses, or indirect relationships, such as in-laws, aunts, uncles, nieces, nephews and cousins, regardless of their surname (Bertrand et al., 2008; Claessens et al., 2000, 2002; Gomez-Mejia et al., 2003; Wiwattanakantang, 2001).

Across the research, family ownership is believed to reduce the agency problem in firms in which ownership and control are not separated (for examples, see Bertrand et al., 2008; Fama and Jensen, 1983; James, 1999). Indeed, most family-owned firms begin as closed companies and are likely to use their own resources rather than external resources<sup>14</sup> (i.e. debt and external equity) to run the business (James, 1999). At later stages, some businesses expand their sources of funding by financing with equity and becoming open corporations.

Research has documented some advantages of family firms. According to James (1999), family firms<sup>15</sup> dominate other business types because they have longer prospective goals than do non-family firms (also see Mishra et al., 2001; Martínez et al., 2007). Family members are tied by close relationships not only within the immediate family but also across generations. James (1999) posits that family ties, love and loyalty lengthen family managers’ perspective on their firms. Hence family managers are more likely to avoid any exploitable actions that may harm the family’s wealth and to use the firm’s resources more efficiently.

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<sup>14</sup> James (1999) suggests that the heavy use of within-firm resources comes from the fact that there is no recorded performance history of the younger firms to reassure their creditors (banks) about their ability to repay loans. Moky (1985 cited in James, 1999) asserts that most family firms use their own resources to expand their business and investment at the beginning of industrial development. This is because of a lack of credibility with banks and incomplete capital markets (i.e. Benedict 1968 cited by James, 1999).

<sup>15</sup> James (1999) defines a family firm as a private-held company that is managed and controlled by entrepreneurs who will transfer the company to their children on their retirement. This implies that no other family members are directly involved in decision making on the firms’ investments.

Close relationships also build “feelings of co-ownership” via private communication among family members (James, 1999) and firms’ decision agents (Fama and Jensen, 1983). Additionally, family members are likely to have experience or special knowledge of their business, which is associated with their long-term relationship with managers and is transferred between family members (Smith and Amoako-Adu, 1999). Therefore, the gap of information between a family (the principals) and their decision-making agents is reduced, allowing the family to provide efficient monitoring and discipline to the agents (Fama and Jensen, 1983).

In contrast, some research argues that the family firm may create a different version of the agency problem. For example, a succession plan to transfer business to family heirs may obstruct a firm’s options for hiring outside professional managers, even if the heirs are not particularly competent (Anderson and Reeb, 2003; James, 1999; Mehrotra et al., 2013; Mishra et al., 2001). This may create an “idiot son” problem, at the expense of other shareholders (Mehrotra et al., 2013).

According to Fama and Jensen (1985), undiversified shareholders (for example, in family controlled firms) may make investment decisions that divert from “value maximising decision” rules. This may be because family firms with highly concentrated shares tend to benefit from enhanced firm growth, reputation, technological innovations and firm survival rather than from maximised shareholder value (Anderson and Reeb, 2003). If the incentives for families to hold shares diverge from the maximisation of a firm’s value (because they are only concerned with benefits for the family), this may lead to exploitation by dominant family shareholders through, for example, dividend payments, underinvestment, related party transactions or tunnelling<sup>16</sup> (DeAngelo and

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<sup>16</sup> According to Johnson et al. (2000), the term “tunnelling” is used to describe situations in which controlling shareholders transfer corporate assets (for example, money and/or profits) out of a firm for their own benefits. Tunnelling may take the form of transferring corporate assets via self-dealing transactions including outright theft or fraud, a transfer pricing between companies in a controlling shareholders’ group, excessive compensations or loan guarantees within the group. Tunnelling also includes situations in which controlling shareholders increase their share values through insider trading or dilutive share issuing, for instance.

DeAngelo, 2000; Fama and Jensen, 1985; Mishra et al., 2001; Morck and Yeung, 2003; Shleifer and Vishny, 1997).

Morck and Yeung (2003) also claim that exploitation by dominant shareholders may be severe in family business groups. They assert that managers in business groups tend to work for the benefit of the controlling family rather than for other shareholders. The family business group also provides opportunities for the controlling family to engage in tunnelling by transferring wealth via their firms within the group.

More recently, Bennedsen and Nielsen (2010) assert that the net effect of using control mechanisms may be worse in firms with family owner-managers. Firms may be faced with persistent entrenchment problems because dominant family shareholders have no reason to provide self-monitoring. The effect may be worse if there is a larger gap between the voting rights and cash-flow rights associated with shares.

### **2.5.2 Government**

In many countries, some private or listed firms are partially owned and controlled by the government. In fact, most government-controlled firms listed in the capital market have been partially privatised<sup>17</sup> from state-owned firms. Governments may decide to invest in private firms for political, economic or social reasons (Capobianco and Christiansen, 2011; Chen, Firth and Xu, 2009; Cuervo and Villalonga, 2000; Le and Buck, 2011; Shleifer and Vishny, 1994), in order to save them from bankruptcy, for example, to encourage the development of “strategic industries” or to manage unemployment, inflation and the provision of social services. Consequently the objective of the government as an investor in private or listed companies is expected to be directed less

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<sup>17</sup> Cuervo and Villalonga (2000) define “privatization” as “a sale of a state-owned firm to the private sector...”. There is specific line of literature that focuses on benefits and costs of a transformation of state-owned firms to private-owned firms (also see Boycko et al., 1996; Megginson and Netter, 2001; Shleifer and Vishny, 1994; Shleifer, 1998). This thesis focuses on incentives for government to control shareholders who remain in firms after (partial) privatisation and does not intend to review the literature of privatisation.



towards profit maximisation and more towards the maximisation of social welfare<sup>18</sup> (for examples, see Bös, 1991, cited in Sun et al., 2002; Downs, 1957; Shen and Lin, 2009).

Nevertheless, government-owned firms may still enjoy some competitive advantages from their government shareholders. For example, firms may receive some financial support, such as tax exemptions or lower interest rates (Capobianco and Christiansen, 2011). In some cases, such as postal services or airport services, these firms may also benefit from a monopoly (Wiwattanakantang, 1999).

However, where the objective of government shareholder is close to profit maximisation, they may behave just like other blockholders. For example, Le and Buck (2011) argue that government may concerns about extracting tax revenues, which are based on firms' profit. As a result, they may put pressure on managers to make decisions based on firm value maximisation. Buck et al. (2008) similarly suggest that governments may attempt to motivate managers with compensation in order to achieve stock appreciation when states are in deficit.

Different institutional environments may also influence to government's motivation to participate in firms' monitoring. In non-competitive markets, Bös (1991, cited in Sun et al., 2002) suggests that governments are likely to be active in monitoring roles as "internal regulators", in order to achieve a balance between the maximisation of profit for a firm and the maximisation of social welfare for the government.

In contrast, in a perfectly competitive capital market, Bös (1991, cited in Sun et al., 2002) argues that governments tend to be non-active in monitoring processes, leaving this responsibility to other shareholders. This may happen because the monitoring costs (including time and effort) are higher than political payoff (Shen and Lin, 2009) and may create easy opportunities for management to exploit minority shareholders (Sun et al., 2002).

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<sup>18</sup> Downs (1957) argues that the role of government in maximising social welfare is still unclear as a result of a difficulty in defining "social welfare" finding appropriate methods to maximise it.

Last, the incentives and motivations of agents of the government, whether they are administrators or politicians, are also an important factor that can influence government actions. Politicians can put pressure on managers to serve their own political objectives, such as seeking votes, thus diverting them from the firm's original goals. Firms' assets can be exploited to provide excess employment and wages (Boycko et al., 1996; Cuervo and Villalonga, 2000; Downs, 1957; Shleifer and Vishny, 1994). In addition, some policies, argued by politicians to be in the public's interests, may actually be pursued for a politician's personal benefit (Bunkanwanicha and Wiwattanakit, 2006).

### **2.5.3 Institutional Investors and Banks**

Research has focused on the role of institutional investors in monitoring, disciplining and influencing managers. Among others, Brickley et al. (1988), Chen et al. (2005), and Cornett et al. (2007) suggest that the incentive for institutional investors to be willing to act as monitors may vary according to factors such as the type of institution (whether or not they are independent), size of share ownership and length of time for investment (liquidity).

Pound (1988) suggests that institutional investors are normally experts in business. They also are likely to be restricted by legal requirements of fiduciary<sup>19</sup> responsibilities. Therefore, they are likely to provide efficient monitoring with lower cost than that associated with diffused shareholders. He proposes hypotheses regarding conflicts of interest and strategic alignment, suggesting that institutional blockholders tend to vote in favour of managers if they have a business relationship with the firm in which they invest, because voting against managers may affect their business benefits.

In respect to the agency problem, recent research classifies institutional investors into two main categories, "pressure-sensitive" and "pressure-insensitive", based on their independence from business relationships (Brickley et al., 1988; Chen et al., 2005). According to Cornett et al. (2007), pressure-sensitive institutional investors are

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<sup>19</sup> According to O'Brien and Bhushan (1990), concept of fiduciary is based on "a prudent person standard", in which prudent person makes his/her judgment with care to deal with his/her own property under specific circumstances at specific time.

institutions that do or have the potential to do business with firms (for example, insurance companies or banks, via their trust departments). Therefore, pressure-sensitive investors may want to maintain their business relationships with firms and may be less likely to vote against managers. On the other hand, pressure-insensitive institutional investors, such as investment companies, like mutual funds, or independent advisory firms are more independent because they directly do business with firms. As a result, they are likely to be more willing to provide monitoring and discipline to managers.

Coffee (1991) argues that a trade off between “liquidity” and “control” is an important factor in motivating institutional investors to be active or passive in monitoring. In fact, “actively trading” institutional investors with short-term goals are likely to seek liquidity from stock trading. For example, an open-end mutual fund has to be ready to repay or redeem at a customer’s request. Yet some institutional investors, such as closed-end funds, may accept higher risks in exchange for a discount in share value if they hold substantial shares in the long term, and may therefore focus on short-term performance but ignore their role in monitoring.

By contrast, “indexed institutional investors”<sup>20</sup>, such as pension funds, with long-term strategies are induced to seek adequate “control” because they may benefit from opposing corporate managers.

According to Chen et al. (2005), institutional investors who prefer monitoring to trading are likely to take active roles in governance but to take a passive trading position. On the other hand, institutional investors who prefer trading to monitoring become active traders but take a passive role in monitoring. They suggest that institutional investors choose to be active monitors or active traders based on a net offset between the costs and benefits of monitoring and trading. They also argue that the net benefit of monitoring is subject to the size of the investors’ share ownership, the duration of their investment and their level of independence from the business.

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<sup>20</sup> According to Coffee (1991: p.1290) “indexed investors” refers to investors who apply passive investment strategies in which their objective is to match their portfolios with the market portfolio rather than to beat the market.

Additionally, as active monitors, institutional investors may find it easier either to obtain financial gain or to receive inside information because they are able to influence managers. These benefits may be larger when they hold larger shares in the firms. However, they have to pay some costs incurred from monitoring (the cost of collecting and analysing information). The costs will be smaller when they have a large share holding and/or invest for longer periods of time. As active traders, institutional investors bear some trading costs such as direct transaction costs, price effects from having large shares, or the costs incurred by seeking new firms in which to invest. However, they will benefit if they can access superior information. If the duration of investment and the size of shares are greater, the cost of trading will be greater. This may imply that institutional investors may be willing to provide better monitoring if they hold substantial shares in the long term.

Coffee (1991) suggests that the success of institutional investors in monitoring corporate managers is also subject to the motivation of their agents, such as professional fund managers, and to whether they have incentives to align with the institutions in which they are employed and with their investment clients.

Conflict of interests can also arise between fund managers and their clients if their incentives are not fully aligned (Barber, 2007). Barber (2007) argues that this issue is sensitive because sometimes a client's objective may be not only value maximisation but also social issues such as forcing firms to reduce pollution. Therefore, fund managers who ignore social activism and focus only on maximising the value of investment portfolios may not serve for the best interests of their clients.

Banks are a special type of institutional investor that can be equity owners or lenders at the same time. Diamond (1984) argues that, although an open market provides opportunities for firms to directly finance among other firms, monitoring is costly relative to the number of lenders (if lenders firms are owned by many small shareholders). Hence lenders can be faced with a free-rider problem. Diamond (1984), however, suggests that a close relationship between banks and their client firms can help

the banks to be active in monitoring firms at lower costs. Thus a close relationship with a bank may help to reduce information asymmetry and the free-rider problem, in turn reducing agency costs (Cable, 1985; Coffee, 1991; Diamond; 1984). In addition, banks, as owner-lenders, can offer external finance resources, such as loans, with attractive interest rates that lower the cost of capital (Coffee, 1991).

Nevertheless, a coalition role of owners and lenders can create a conflict of interests between banks and shareholders. According to Coffee (1991), bank owner-lenders can be motivated to provide financial resources to corporate borrowers with costs that are higher than normal, in order to compensate for contingency costs such as bail-outs in cases of insolvency. This may benefit bank owners and managers but not other shareholders, who may not be willing to pay such premiums.

Moreover, Jensen and Meckling (1976) assert that bank owners, who are more concerned about the insolvency of corporate borrowers, may influence companies to reject high positive NPV (net present value) investments. This is because high NPV investments are riskier and create opportunities for loans to be defaulted, even though they have the potential to increase shareholders' wealth.

Although banks as owners are likely to be restricted from holding substantial proportions of shares in other companies by law<sup>21</sup>, banks in some countries, such as Germany or Japan, can exercise "control" that exceeds their share holdings in practice. For example, Before 1998, German banks had the authority to collect voting proxies and to vote on behalf of shareholders who had deposited shares with them (Coffee, 1991; Stratling, 2012).

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<sup>21</sup> For example, under the Anti-Monopoly Act of 1977, Japanese banks are allowed to hold no more than 5% of shares in any domestic companies. In the US, the Bank Holding Company Act of 1956 limits American bank holding companies to hold no more than 5% of the voting shares in any non-banking companies. In addition, German banks on average hold shares directly less than 5% of stock in 100 largest German corporations (Cable, 1985). It is worth noting that while Japanese banks are prohibited from providing an investment banking service, by the Security and Exchange Act of 1984, German banks are allowed to serve either commercial banks or investment banking.

Since 2003, the role of banks in corporate governance in Germany has been reduced gradually due to many changes in the corporate governance system. According to Stratling (2012), many German banks have ceased to provide proxy voting services because they have to bear the higher costs resulting from an enactment of the new law, the Control and Transparency in Enterprises Act in 1998. The law intends to protect deposit clients' interests by requiring the deposit banks (either equity owners or lenders) to ensure that they will not use the voting proposals issued to their deposit clients for their own interests. This also reduces the motivation of banks to be represented on supervisory boards.

The role of banks as equity shareholders and monitors has tended to increase in emerging markets such as Thailand, after the financial crisis in 1997 (more details are discussed in Chapter 3).

#### **2.5.4 Foreign Investors**

The international capital market provides an additional source of funds to domestic companies. There are two main types of foreign investment: foreign direct investment (FDI) and foreign portfolio investment (FPI). A key difference between the two types of investment is the level of control they allow. While investors with FDI own substantial shares<sup>22</sup> and maintain substantial control over the firms they invest in, investors with FPI shares will not have such substantial control (Itay, 2005). This difference may affect the degree of monitoring and level of contribution that investors have in a firm (for example, in respect to transfer of knowledge or technology).

Multinational companies (MNCs) are an obvious example of FDI investors. The general purposes of MNCs' investment in other countries are to access new markets, access new resources and/or to save production costs through lower labour costs or cheaper materials, for example. The use of invested resources in the firms is expected to generate

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<sup>22</sup> For example, the parent company may own 100% of the shares or partly own shares in a firm. There are many forms of foreign direct investment such as the establishment of new companies (as either branches or subsidiaries), an acquisition of company outside the host country or an international joint venture (Tomassen, 2004).

income for the parent company in the host country (Tomassen, 2004). Therefore, a parent company is likely to maintain substantial control over the domestic company in which they have invested, and this may motivate it to provide efficient monitoring.

Boardman et al. (1997) investigate whether multi-national enterprise subsidiaries perform better than local companies do. He suggests that the more concentrated nature of ownership in MNC subsidiaries may help to reduce agency costs by providing better monitoring and better rewards to managers because subsidiaries' performance affects the performance of their parent companies. However, the success of FDI is subject to many factors such as a country's economy, the size of the market, the market and accounting performance of companies, and trade policies such as tax deductions or special financing incentives, such as grants (Blomström and Kokko, 2003; Kang and Stulz, 1997; Wiwattanakantang, 2001). This may imply that FDI investors might not invest as much in monitoring costs as much as one might expect.

Additionally, long distances between parent companies and subsidiary companies and different cultures and institutional environments may limit a parent company's ability to provide efficient monitoring and to access information (Boardman et al., 1997; Lin and Shiu, 2003; Wiwattanakantang, 1999).

Literature on FDI also suggests that to be successful in other foreign markets, MNCs firms need to own unique knowledge or technologies of production or management that allow them to compete against local companies in the markets (for examples, see Blomström, 1986; Blomström and Kokko, 2003; Dunning, 1980, 1988).

In contrast to FDI investors, FPI investors may be individuals or financial institutions. Their main investment objectives normally involve risk diversification and return. As a result, they may lack incentives to control, and they therefore take a passive role in monitoring. Nevertheless, this type of foreign investment may provide domestic firms with better access to external funding and this could pressure firms to improve their corporate governance and performance in order to be more attractive to foreign investors.

### 2.5.5 Multiple Dominant Shareholders

Most existing research attempts to explain the role of other large shareholders in limiting the control of dominant shareholders. Pagano and Röell (1998) suggest that other large blockholders are motivated by their substantial shares to strictly monitor dominant shareholders in order to protect themselves from others exploitation. Volpin (2002) suggests that a coalition<sup>23</sup> of minority shareholders, which creates a blockholder, is an efficient way to limit the control of dominant shareholders.

It is possible for firms to have more than one dominant shareholder, each having their own motivation to hold substantial shares in a firm. The term “multiple dominant shareholders” refers to all groups of dominant shareholders who hold substantial of shares in the same firm.

According to Bennedsen and Wolfenzon (2000), there are two possible, opposed effects of having multiple dominant shareholders<sup>24</sup>. Firstly, the “alignment effect” suggests that more cash-flow rights possessed by multiple dominant shareholders leads to more costs being incurred from their actions. Multiple dominant shareholders are motivated to generate lower private benefit extractions because they also share a substantial amount of these costs.

Secondly, given that each group of multiple dominant shareholders has power of control over a firm and that the shares associated with cash flows and control rights are distributed equally among the dominant shareholders, an alignment effect can be expected. If not, then an unequal ownership distribution creates a “coalition formation effect”<sup>25</sup>. Hence it is likely that smaller dominant shareholders are motivated to form a

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<sup>23</sup> Specifically, coalition of minority shareholders in Volpin (2002)’s study refers to “a voting syndicate”, in which significant groups of shareholders sign an agreement to vote together.

<sup>24</sup> Bennedsen and Wolfenzon (2000) assume that each large shareholder hold substantial shares with voting rights equally in firms in the sense that no one has no absolute power over the others.

<sup>25</sup> According to Bennedsen and Wolfenzon (2000), the “coalition formation effect” suggests that coalition shareholder who holds the smallest cash-flow rights would be the one who can exploit corporate assets with a smallest reduction in cash-flow rights. Hence, the smallest shareholder in controlling coalition has both the incentives and the substantial power obtained from controlling coalition to extract corporate assets for their own benefits (Laeven and Levine, 2008).



“controlling coalition” in order to gain absolute control over a firm, resulting in a seizure of the control from the largest dominant shareholders.

Maury and Pajuste (2005) suggest that multiple dominant shareholders, whose shares are well distributed, provide efficient check-and-balance monitoring, resulting in overall lower private benefit extraction. In addition, they assert that it is more difficult for each dominant shareholder to hide his/her exploitation from other groups of dominant shareholders than from dispersed shareholders. Gogineni et al. (2012) reveal that the second largest shareholders help to limit the agency problem in firms with concentrated ownership. Indeed, they found that a proportion of share ownership by these shareholders is associated with lower agency costs.

Nevertheless, it is possible that groups of multiple dominant shareholders can create a “controlling coalition”, in which they share “a diverted profit” from an extraction. Hence, whether a check-and-balance system created by multiple dominant shareholders performs efficiently depends on the identities and motivation of each group of multiple dominant shareholders.

## **2.6 The Role of Corporate Governance**

Hart (1995b) asserts that corporate governance has no role in a perfect world, where there are no agency problems and transaction costs. The absence of the agency problem makes a firm look like the “black box” firm according to the neoclassical theory discussed in Section 2.2. Without the incentive problem, there would be no need to motivate agents to work for the best interests of the principal because the agents would work based on what they are told - to maximise profits or minimise costs, for example. In this situation, no one is concerned with corporate governance because no incentive conflicts need to be solved.

However, the presence of the agency problem alone would not cause a problem. Without transaction costs, all agents’ efforts would be observable and verifiable. The principal would be able to write a comprehensive contract, specifying all parties’ obligations for all possible future contingencies and losses that may be incurred by the incentive

problem. Thus the contract is optimised in the sense that incentives and risk sharing are balanced. In other words, in a perfect world there would be no need for corporate governance because all contract parties' rights and obligations would be protected and controlled by the contract.

However, corporate governance does matter in the real world, due to human behaviour<sup>26</sup> and transaction costs<sup>27</sup>, and the agency problem does exist (Hart, 1995b).

### **2.6.1 Corporate Governance in a Corporation**

While firms with dispersed ownership are likely to face a conflict of interests between managers and small shareholders, firms with concentrated ownership are likely to face the conflict problem between dominant shareholders and minority shareholders. Since the real world is not free of transaction costs, there is a demand for corporate government at the corporation level.

Generally, corporate governance can be viewed as a decision mechanism that helps contract parties to manage events that are not specified in the initial contract (Hart, 1995b). At the corporation level, corporate governance involves the design of a system that provides appropriate mechanisms<sup>28</sup> to check and balance management behaviour in order to minimise a possible conflict of interests between the management and a corporation's principals (OECD, 1999, 2004). As a result, good corporate governance is a key factor in a company's long-term success and helps to "improve economic efficiency and growth as well as enhancing investor confidence" for the whole economy across different countries (OECD, 2004: 11).

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<sup>26</sup> "Human behaviour" here refers to the bound rationality and opportunism suggested by Simon (1997) and Williamson (1996).

<sup>27</sup> Transaction cost theory was initially introduced by Corse (1937). Hart (1995b) suggests that there are at least three costs incurred when writing a contract. They consist of 1) the cost of predicting future events and planning ahead to deal with them, 2) the cost of negotiation between the contract parties and 3) the cost of enforcing the contract.

<sup>28</sup> According to Goergen et al. (2005), corporate governance mechanisms include managerial ownership (i.e. executive compensation), monitoring by blockholders or creditors, board of directors (i.e. non-executive directors or independent directors), regulation (i.e. investor protection) and markets for corporate control (i.e. takeover).

Definitions of corporate governance used in existing literature vary according to different perspectives, who the principals are and the theory underlined in each piece of research (Keasey et al., 2005). For the purposes of this study, it focuses on corporate governance at the corporation level and from a shareholder perspective. Throughout this thesis, corporate governance is therefore defined as a set of mechanisms that are designed and implemented to minimise the conflict of interests between managers and shareholders or between majority shareholders and minority shareholders.

### **2.6.2 Corporate Governance around the World: Anglo-Saxon vs. Emerging Countries Models**

“There is no single model of good corporate governance.”

(OECD, 2004: 13)

Academics and policy makers suggest that different institutional environments<sup>29</sup> cause corporate governance systems to vary across firms and countries. Although it is difficult to tell which corporate governance system is the best, Charkham (2008) suggests that it is possible to identify which system is “good”, based on its ability to deal with the ineffectiveness of management incurred by the agency problem and, in turn, to make a corporation attractive to external financiers (Shleifer and Vishny, 1997). Shleifer and Vishny (1997) also suggest that a good combination of legal protection and a degree of concentrated ownership is essential for a “good” corporate governance system. For example, the system in the US has strong shareholder protection, which helps to reduce the impact of exploitation by managers in widely held firms. On the other hand, countries such as Thailand, in emerging markets, where it is claimed that shareholder protection is weak, may benefit from monitoring by large shareholders (Wiwattanakantang, 2001).

A system of corporate governance consists of many mechanisms to help align the interests of managers to those of shareholders (Weir, et al. 2002). These mechanisms can

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<sup>29</sup> These include history, legal systems, regulatory, business cultures and the political, economic and ethical environments (Charkham, 2008; Denis and McConnell, 2003; OECD, 2004; Shleifer and Vishny, 1997)

be categorised into “internal” and “external” mechanisms. Key internal mechanisms suggested by the literature include the board of directors (Fama and Jensen, 1983), incentive packages (Jensen and Meckling, 1976), debt financing (Jensen, 1986; Hart, 1995b) and large shareholders (Demsetz, 1983; Hart, 1995b, Shleifer and Vishny, 1997). External mechanisms consist of the primary and secondary capital market (Fama and Jensen, 1983), the market for corporate control (Demsetz, 1983; Hart, 1995b), the managerial labour market (Fama, 1980) and legal shareholder protection (Shleifer and Vishny, 1997).

These mechanisms are selected and combined into “packages” that may be different in detail at both firm and country levels<sup>30</sup>. Research suggests each mechanism works interdependently (Rediker and Seth, 1995). Therefore, the impact of an overall system depends on how well its mechanisms either substitute or complement each other. Nevertheless, no one can guarantee that a “good” structure of governance will function perfectly in practice (Charkham, 2008).

Although the common goal of corporate governance systems is to deal with the agency problem, it seems that root causes of the problem come from different sources in Anglo-Saxon developed countries and emerging economies<sup>31</sup> (Young et al., 2008). While the agency problem in most firms in Anglo-Saxon developed countries derives from a conflict of interests between managers and shareholders (Berle and Means, 1932), firms in emerging countries face conflicts between dominant shareholders and minority shareholders (La Porta et al., 1999).

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<sup>30</sup> For example, a listed company is required to have a board of directors with a minimum threshold. However, shareholders can decide the number directors on the board that is suitable for their company.

<sup>31</sup> An “emerging market economy” are defined as “a country that satisfies two criteria: a rapid pace of economic development, and government policies favouring economic liberalisation and the adoption of a free-market system” (Arnold and Quelch, 1998 cited in Hoskisson et al., 2000: 249). According to Hoskisson et al. (2000: 249), emerging market economies are characterised as countries where income is low and rapid growth is driven by economic liberalisation. They are categorised into 2 groups: (1) developing countries in Asia, Latin America, Africa and the Middle East and (2) transition economies in the former Soviet Union and China.

In fact, most corporate governance mechanisms suggested in the literature have developed in the institutional environments of Anglo-Saxon economies (the US and the UK). The main objective of these mechanisms is to mitigate the traditional agency problem. This may imply that these mechanisms might not work as intended in the context of emerging economies (Dharwadkar et al., 2000; Young et al., 2008).

For example, Fama and Jensen (1983) suggest separating decision management from decision control functions by delegating the board of directors to oversee management. This mechanism might not work well in the context of emerging countries because both functions are normally combined in the hands of dominant shareholders. In addition, using stock compensation to align the interests of managers to those of a firm may not solve the incentive problem but rather make things worse by creating more opportunities for dominant shareholder managers to isolate themselves from market disciplines.

**Table 2.1:** Main Characteristics of Anglo-Saxon and Emerging Countries

Main Characteristics	The Anglo-Saxon Countries (the United Kingdom, the United States)	Emerging Countries
<b>Country Levels</b>		
- Growth	Stable	Rapid Growth
- Income level	High	Low
- Legal Protections	Strong	Weak
<b>Firm Levels</b>		
- Ownership	Dispersed Ownership	Concentrated Ownership
- Control	Management	Dominant Shareholders
- Information Asymmetry	Narrow gaps, use public information, high quality of disclosure and transparency	Wide gaps, use inside information, low quality of disclosure and transparency
- Agency problem	Management vs. Shareholders	Controlling shareholders vs. Minority shareholders

## 2.7 Some Corporate Governance Mechanisms and Agency Problems

### 2.7.1 Board of Directors

According to Fama and Jensen (1983), it is worth disaggregating the “decision process”<sup>32</sup> within any organisation into two components: “decision management” and “decision control”. They assert that the agency problem raised by Berle and Means (1932) may result from decision management being separated from residual claims. Similar to Berle and Means (1932), the conflict of interests between decision agents (managers) and residual claimants (shareholders) arises because the outcomes of decisions made by the agents do not significantly affect the agents’ wealth. Hence decision management should be delegated to management, while decision control should remain in the hand of shareholders or their representatives, a board of directors.

In the open corporation, shareholders appoint a board of directors to be their representative and delegate management and control decisions to the board. Nevertheless, they retain an ultimate control over significant events<sup>33</sup> that need their approval. The board then selects internal decision agents who have relevant, specific knowledge to act as top managers<sup>34</sup> and delegates them management and some control decisions to operate the corporation. The board is responsible for monitoring the top managers’ performance and retains ultimate control over them including mandates to hire, to dismiss or to set the top managers’ compensation.

A board of directors is an effective device to control the agency problem only if it can prevent individual top managers, such as chief executive directors, from engaging in

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<sup>32</sup> Fama and Jensen (1983) suggest that there are four steps in a decision process: initiation, ratification, implementation and monitoring. Initiation is a decision relevant to the plans (or proposal) to use an organisation’s resources and to set the contracts. Ratification is a decision to select the plans to be implemented. Implementation involves the execution of the selected decisions. Monitoring deals with measurement of the agents’ performance and the reward system. Initiation and implementation are included in “decision management” while implementation and monitoring are included in “decision control”.

<sup>33</sup> Significant events may include a decision to appoint and dismiss a board, a decision to auditor, a decision to issue, buy or sell capital or a decision to acquire or merge with another firm.

<sup>34</sup> “Top managers” and/or “internal managers” refer to internal managers who also are members of the board (i.e. executive directors) or internal managers who are not members of the board.

opportunistic behaviour (Fama and Jensen, 1983). Existing literature also addresses the fact that factors, such as the size and types of the directors, may influence the efficiency of a board in limiting the agency problem in a corporation.

### ***2.7.1.1 Board Size***

According to Fama and Jensen (1983), the board in a large corporation should consist of several top managers who have valuable information and knowledge about the corporation's business. This may imply that having many expert directors can help a board to develop efficient monitoring processes and to provide better advice to the chief executive's office (Coles et al., 2008; Xie et al., 2003).

Nevertheless, some research argues that oversized boards may have a reduced efficiency in performing their task (Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996). Indeed, a board composed of more than seven or eight directors may be less efficient and can easily be under control of a chief executive officer (Jensen, 1993). The bigger board size can also reduce the efficiency of directors in communicating or expressing their opinions in a board meeting – by slowing down decision making, for example (Lipton and Lorsch, 1992). The efficiency of a board also depends on how well directors can work together. Therefore, a lack of cohesiveness between members (a coordination problem) may happen more easily in a large board rather than in a small board.

### ***2.7.1.2 Board Independence***

A board of directors include two main types of directors, in particular (1) internal managers who involve in management (executive directors or members of the top management team, for example) (2) non-executive directors<sup>35</sup> who are not involved in management. According to Fama and Jensen (1983), board members should include many non-executive directors who are not internal managers of a corporation. The non-

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<sup>35</sup> Most of non-executive directors are also independent directors who do not have a relationship to any managers, the company, its parent company, its subsidiaries or affiliated companies (for example, see Zahra and Pearce, 1989). In a few cases, companies also have non-executive directors who do not involve in management but are not independent directors because they fail to meet qualification of independent directors (for example, a relative with management).

executive directors are act as “arbiters”, in cases of disagreement among internal managers, and conduct tasks that carry a serious incentive problem, such as the setting of executive compensations.

It is necessary that non-executive directors should be independent from internal managers, such as the CEO, so that they do not collude with internal managers to exploit shareholders (for examples, see Fama and Jensen, 1983; Hermalin and Weisbach et al., 1998). Their independence enhances the efficiency of non-executive directors in supervising management. In addition, most non-executive directors normally take a management position in other corporations or complex organisations. Therefore, they have incentives to perform their task well in order to retain their reputation as expert decision control agents in business.

In many cases, executive directors nominate non-executive directors – to help them fulfil their decisions in some specific areas such as market regulation, for instance (Fama and Jensen, 1983). It is also common for a non-executive director to be a former manager of the corporation (Baysinger and Hoskisson, 1990, cited in Conyon and Peck, 1998). However, the benefit of receiving board seat may put non-executive directors under the control of executive directors (Agrawal and Knoeber, 2001) and compromise their independence.

## **2.7.2 Characteristics of Chief Executive Officers (CEOs)**

### ***2.7.2.1 CEO Duality***

CEO duality is defined as a situation where a firm’s CEO also serves as a chairman of the board of directors (Boyd, 1995). According to Jensen (1993: 36) the chairman who has responsibility for leading board meetings and supervising the process of hiring, firing, evaluating and compensating the CEO.

From an agency theory perspective, CEO duality provides opportunities for CEOs to dominate decision-making processes. In addition, it is difficult to prove whether a CEO-chairman will perform his/her functions independently from his/her own interests.



Therefore, CEO duality not only reduces the efficient monitoring role of the board but also allows the board to be dominated by the CEO (Jensen, 1993). Fama and Jensen (1983: 314) also argue that the domination of a CEO over a board signals an incentive problem, incurred from the combination of management and control decisions. To minimise the potential agency problem, OECD (2004: 63) recommends that firms separate the role of CEO and chairman in order to strengthen their board independence and recognises this characteristic as an indicator of good corporate governance (see Jensen<sup>36</sup>, 1993).

In contrast to the stewardship theory<sup>37</sup> perspective, a “single leadership” (CEO duality) may provide a faster and more efficient decision-making process that responds to a firm’s changing environment (Boyd, 1995). Brickley et al. (1997) argue that there may be some costs incurred from separating CEO from chairman positions. Firstly, separation of the two positions may reduce the power of a CEO to perform his/her leadership of management efficiently. It may also confuse the public when they wish to identify a firm’s leader and who should be blamed when a firm performs badly (Boyd, 1995). Secondly, a non-CEO chairman (i.e. an outside director) may not have much incentive to do his/her job, causing the firm to suffer from agency costs. Finally, a CEO may have valuable, firm-specific knowledge and experience that may help them to fulfil the chairman’s function. A separation may create some costs in the process of transferring information between a CEO and chairman.

### ***2.7.2.2 CEO Founders and CEO Descendants***

A CEO founder is defined as a person who takes a CEO position in firm that he/she has founded. In many cases, CEO founders may be motivated to hold a large proportion of shares in a firm they have established, in order to maintain control over the firm (Agrawal and Knoeber, 1996). The incentives for a CEO founder to exploit other

<sup>36</sup> Similarly, Jensen (1993) suggests separating the CEO and Chairman positions to maintain the board efficiency.

<sup>37</sup> According to Davis et al. (1997: 21), stewardship theory is defined as “situations in which managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the objectives of their principals.”

shareholders might be less than in a firm managed by a non-CEO founder, which, in turn, limits the potential for the agency problem.

The literature also suggests that CEO founders may be a valuable asset for a firm because of their ability to contribute to its business. Morck et al. (1988) suggest that a CEO founder is normally an expert in business. In addition, firms may benefit from business or political networks created by a CEO founder (Polsiri and Wiwattanakantang, 2004). For example, Polsiri and Wiwattanakantang (2004) assert that founders of Thai business groups have good connections with politicians or government. This may secure their firms in uncertain political and business environments (Polsiri and Wiwattanakantang, 2004).

However, Morck et al. (1988) suggest that CEO founders may have special control over firm. For example, a CEO founder might be involved in selecting members of the board of directors. This special control therefore provides an opportunity for CEO founders to become entrenched, regardless his/her fraction of shares in the firm (Morck et al., 1988). It is also likely that the CEO position may be transferred from founders to their descendants. This intention may increase the incentive of a CEO founder to align with shareholders in long-term. However, it may later be an obstacle if the firm wishes to hire a professional manager. In addition, if a CEO's descendants are not competent, this may lead to a decline in firm performance (Anderson and Reeb, 2003; Bertrand et al., 2008; Mehrotra et al., 2013; Morck et al., 1988).

## **2.8 Summary and Conclusions**

This chapter addresses the framework of ownership structure and corporate governance that has developed from the agency theory. In the imperfect conditions of the market, agency theory suggests that principals cannot expect that agents will absolutely work on behalf of their interests. This conflict of interests creates “agency costs” for a firm.

Although, agency theory provides a fine theoretical ground in respect to how a firm's participants are motivated by their ownership (dispersed and concentrated ownership, for example) to interact with each other, it still has some missing factors that drive them to

act differently from the theoretical predictions. Similarly, no best corporate governance model is suggested in the existing literature. An ideal of corporate governance model might work for some countries but not others. More works need to be done in order to understand the role of ownership structure and corporate governance in limiting or enhancing the agency problem in different institutional environments.

Following the initial argument of Berle and Means (1932), the impact of ownership structure on firm performance has been widely researched both inside and outside the US. In addition, many recent accounting scandals partly occurred because of incentive problems and a failure of corporate governance. As a result, more recent research has studied the role of ownership structure and corporate governance on the quality of financial reporting, but the evidence addressed in the existing literature is still unclear. There is also a lack of evidence to support whether investors can correctly perceive an outcome from the mechanisms that is reflected in firm performance or the quality of financial reporting.

In addition, many capital markets have started reviewing their current model of corporate governance and corporate governance reforms have been implemented in many countries (including the US and Thai capital markets). However, there is a lack of evidence from existing literature to support whether the corporate governance reforms actually help to limit the agency problem and to increase investors' confidence in the capital markets.

In the context of the Thai capital market, this thesis attempts to fulfil the gaps in existing literature on the role of ownership structure and corporate governance in firm performance, managers' accounting discretion and investors' perceptions. In order to examine these impacts, Chapter 3 reviews the current system of Thai ownership structure and corporate governance and Chapters 4, 5 and 6 review related literature and present empirical evidence on each topic. Although each chapter may complement or contradict the others, looking into the role of ownership structure and corporate governance will contribute to the sum of academic knowledge on whether firms with

different ownership structures and corporate governance function as well as predicted by the underlying theory.

## **Chapter 3: Corporate Governance in Thailand**

### **3.1 Introduction**

The previous chapter discussed the principal-agent relationship, ownership structure and the importance of corporate governance systems. This chapter offers an overview of corporate governance in Thailand. It aims to build an understanding of the history of Thailand's capital market, of the key corporate governance mechanisms and how these mechanisms work in practice, and of corporate governance reform and its contributions to firms and to the capital market.

This section is organised as follows: Section 3.2 provides a history of the capital market, including its need for reform. Section 3.3 discusses more deeply each key corporate governance mechanism, including ownership structure, the board of directors, leverage, accounting and auditing practices, laws and legal protection. The last section provides a summary and conclusions.

### **3.2 Thai Corporate Governance: History and Evolution**

#### **3.2.1 The Development of the Thai Capital Market**

Thailand has liberalised its economy in order to respond to global changes. To promote growth and economic stability, the Thai government has focused its efforts on enhancing and strengthening the credibility of the Thai capital market. In 1963, the Bangkok Stock Exchange Co., Ltd. (BSE) was the first security trading market to be established by a private industrial group. However, the BSE was not successful, as shown by its poor annual turnover and low trading volume. Consequently, it ceased to operate in the early 1970s (The SET, 2008a).

Nevertheless, the proposal to establish “a supervised capital market” was taken forward by the Thai government as a part of the Second National Economic and Social Development Plan (1967-1971). In 1974, the Securities and Exchange of Thailand Act

(B.E. 2517, 1974) was passed, which paved the way for the establishment of the Stock Exchange of Thailand (SET). The SET traded for the first time on the 30<sup>th</sup> of April 1975. At that time, the SET had three regulators: the Ministry of Finance, the Ministry of Commerce and the Bank of Thailand (BOT). The dispersed authority of the regulators made the supervision and development of the capital market inefficient. This problem was remedied when the Securities and Exchange Act (B.E. 2535, 1992) was enacted in 1992, and the Securities and Exchange Commission, Thailand (SECT) was established to regulate and to supervise the SET's primary (initial public offering) and secondary market.

The SET grew slowly to begin with, partly because of limited knowledge about equity markets on the part of firms and investors. In addition, the capital market was not attracting large Thai businesses to become listed companies. One reason for this was that they were required by public company law<sup>1</sup> to distribute about half of their shares to outside investors (Suehiro and Wailerssak, 2004). The slow growth in the number of listed companies and the size of market capitalisation are shown in Figures 3.1 and 3.2.

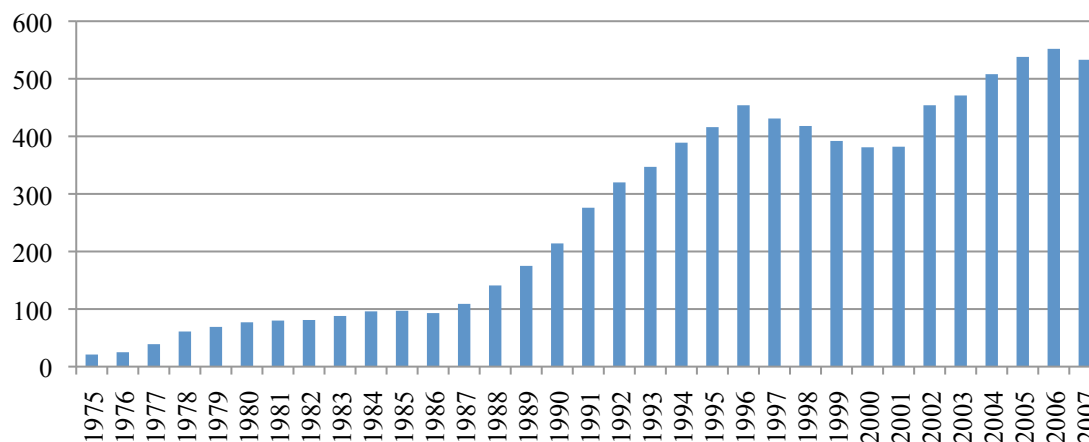
In fact, dominant shareholders in Thai firms preferred the use of either internal capital or debt financing over equity financing, because the latter diluted their cash-flow rights and control over the firms. Nevertheless, the boom of emerging markets in the 1990s encouraged Thai firms to seek new sources of funding for their business expansions (Suehiro, 2001). Therefore, when the law was revised in 1992 to allow original shareholders to maintain a substantial proportion<sup>2</sup> of shares in their listed firms, the capital market grew dramatically and became another important source of capital for firms until the collapse of the financial system in 1997.

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<sup>1</sup> The previous Public Limited Company Act (B.E. 2521, 1978) required half of public firms' outstanding shares to be distributed to small shareholders, who would hold less than 0.60% of the total shares (Suehiro and Wailerssak, 2004). Hence the law limited the large shareholders to holding outstanding shares not in excess of 50%.

<sup>2</sup> See also footnote 1.

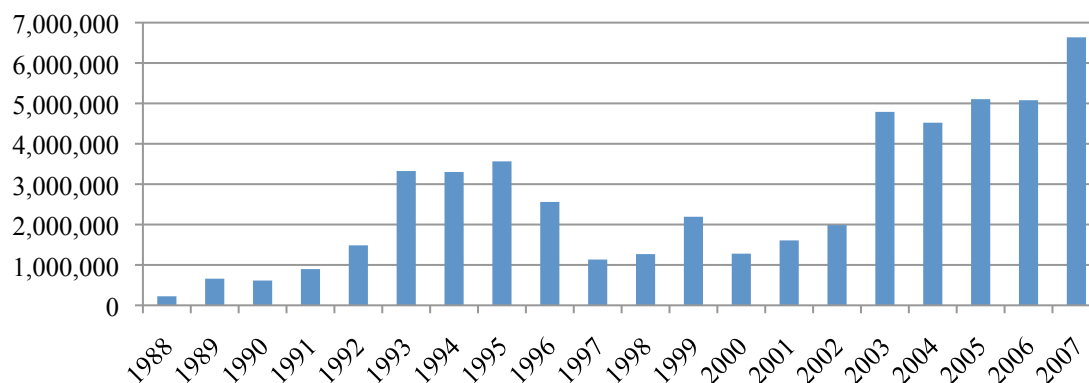
**Figure 3.1: Number of Firms Listed in the Stock Exchange of Thailand from 1975 to 2007**



Sources: Fact Book from 1990 – 2007, The Stock Exchange of Thailand (2008b)

Fact Book from 1975 – 1989, The Stock Exchange of Thailand  
(cited in Suehiro, 2001: 33)

**Figure 3.2: Market Capitalisation from 1988 to 2007 (Million Baht)**



Source: Summary of statistics from 1975 – 2007, The Stock Exchange of Thailand (2008b)

### **3.2.2 The Financial Crisis in Thailand**

The financial crisis in Thailand began when the BOT decided to end the “pegging” system of the Baht against the US Dollar on the 2<sup>nd</sup> of July 1997. Consequently, the Thai economy suffered a sharp downturn. In addition, many companies went into financial difficulties and needed restructuring. In fact, these companies suffered losses incurred by over-borrowing in foreign short loans, resulting in the collapse of 56 financial institutions and many non-financial companies (Limpaphayom and Connelly, 2004). The crisis also affected the performance and credibility of the Thai capital market. The SET index dropped sharply from 832 in 1996 to 373 after the 1997 crisis, as shown in Figure 3.3.

The crisis revealed the weaknesses in corporate governance, especially in the financial sector. Many corporate governance mechanisms turned out to be inefficient both at firm and national level. At firm level, the World Bank (1998: 67-68) described the characteristics of corporate governance in East Asian countries including Thailand as “ineffective boards of directors, weak internal control, unreliable financial reporting, lack of adequate disclosures, lax enforcement to ensure compliance, and poor audits.” At the national level, the monitoring and supervisory process of regulators failed to detect these weaknesses, and in turn no appropriate action was taken to solve the problem (World Bank, 1998: 68).

Concentrated ownership was identified as one of the factors that caused the weaknesses. Because Thai firms relied mostly on bank financing, Alba et al. (1998) characterised the Thai financial structure as a “bank-centred model” in which banks played the role of monitoring and disciplining the firms. However, block ownership by families with close relationships to banks led to inefficient lending by the banks (World Bank, 1998). In fact, a limited number of “big families”<sup>3</sup> had significant “controlling interests” in Thai

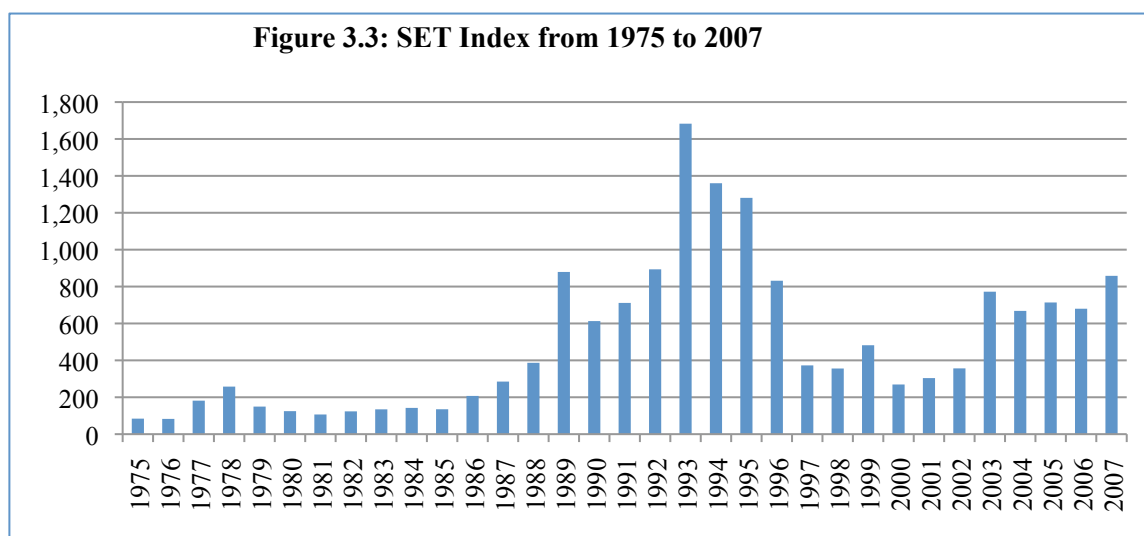
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<sup>3</sup> Thai banks before the 1997 crisis consisted of the Bangkok Bank (Sophonpanich Family), the Siam Commercial Bank (the Crown Property Bureau), the Thai Farmers Bank (Lamsam Family), the Bangkok Metropolitan Bank (Tejapaibul Family), the Bank of Ayudya (Ratanarak Family), the First Bangkok City Bank (Sirivadhanabhakdi Family), the Laem Thong Bank (Chonsrichawla family) and the Nakornthon Bank (Wang Lee Family) (Polsiri and Wiwattanakantang, 2004).



Banks before the crisis (Brooker Group, 2001). The close relationship caused the banks to supply loans to Thai firms without considering the firms' performance (World Bank, 1998). Alba et al. (1998) comment that although the signs of the crisis, such as high leverage and a decline in profit, were apparent before the crisis, the rapid and impressive economic growth in Thailand had caused investors and foreign financial institutions to overlook these problems. In addition, high leverage in boom periods made Thai firms risky and sensitive to any changes in their financial structure, in turn reducing their ability and willingness to adjust their behaviour and to solve these problems in time.

In addition, the weakness of the financial system and corporate governance made many local and foreign investors fearful of investing in Thailand, and this contributed to the downturn in the Thai capital market. As in most crisis-affected Asian countries, the corporate governance reforms that have been recommended by the World Bank are an urgent mission for Thai government if it is to recover the credibility of the Thai economy and its capital market after the crisis.



Sources: Summary of statistics from 1975 – 2007, The Stock Exchange of Thailand (2008b)

### **3.2.3 The Reform of Thai Corporate Governance System**

Before the crisis, few corporate governance regulations and guidelines on corporate governance were imposed in the Thai capital market. However, when the crisis occurred, it created great opportunities for the improvement of corporate governance systems in the capital market and many more regulations and guidelines were introduced and mandated successively as a result. In order to regain investors' confidence and capital market performance, the Thai government, including market regulators such as the SECT, cooperated to strengthen their supervision and enforcement and to enhance an awareness of good corporate governance in listed firms.

The year 2002 was proclaimed “the Year of Good Corporate Governance”. The National Corporate Governance Committee<sup>4</sup> set national policies for corporate governance that were used as core guidelines for regulations to promote good corporate governance in the capital market (SECT, 2008). The policies suggested that good corporate governance should be a combination of three disciplines: regulatory discipline, self discipline and market discipline. In conjunction, these were expected to help protect shareholders' rights, enhance the accountability of boards of directors and increase transparency and disclosure (Limpaphayom and Connelly, 2004; Pitiyasak, 2005).

Responding to the national policies, the SET published the “15 Principles of Good Corporate Governance” for listed companies. Using a “comply or explain” approach, Thai listed companies were encouraged to implement all of these principles or to disclose their reasons for non-compliance in their Annual Registration Statements (Form 56-1) and Annual reports. In 2006, the SET revised the principles to be in line with the OECD Principles of Corporate Governance (2004). Listed companies were encouraged to comply with the revised principles and, since 2007, they have also been required to disclose their compliance in their annual reports. The SET assessed compliance with

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<sup>4</sup> The National Corporate Governance Committee (NCGC) was established by the Thai Cabinet in 2002 in order to develop and implement policies to strengthen investors' confidence in the Thai capital market. The NCGC is chaired by the Prime Minister and consists of representatives from government and the private sectors.

these guidelines in 2008 and found that most of listed companies had implemented the new guidelines and disclosed their compliance in detail (SET, 2003).

As the main market regulator, the SECT plays an important role in corporate governance reform. After the financial crisis, the SECT strengthened its regulations and sanctions in order to enhance regulatory discipline. In 2004, the World Bank conducted its assessment<sup>5</sup> of Thai corporate governance practices, based on an international framework, and the results indicated that the system met most of the OECD principles of corporate governance. However, some concerns were judged as needing improvement, especially in the areas of the legal protection of minority shareholders, enforcement by regulators and the reform of accounting and auditing standards in order to facilitate high disclosure and transparency in financial reporting (World Bank, 2005).

Responding to the World Bank's comments, in 2008, the SECT proposed amendments to the Securities and Exchange Act (B.E. 2535, 1992) to expand minority shareholders' rights so that they could jointly propose topics for the agenda of the Annual General Meeting and sue directors or managers for misconduct. It also included whistle-blower protection for auditors and employees, who report fraud. In addition, accounting and auditing standards have been continuously changed to be in line with international standards such as the IFRS and ISA.

The amended laws are expected to raise the level of Thai corporate governance to meet international standards, in turn enhancing the efficiency of the capital market. In 2012, the World Bank conducted its assessment again and discovered significant improvements in the Thai corporate governance system that met most of the international framework requirements (the World Bank, 2013). The key areas of improvement included disclosure and transparency, laws and regulations to protect investors, and enforcement by regulators. However, there is still limited empirical evidence of the contributions that the reforms have made to listed firms and the overall capital market in practice.

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<sup>5</sup> The assessment is one part of the CGROSC project launched by the World Bank (Corporate Governance - Report on the Observance of Standards and Codes, 2005).

### **3.3 Corporate Governance Mechanisms in Thailand**

#### **3.3.1 The Nature of Thai Firms: The Role of Dominant Family Shareholders**

As in other Asian countries, concentration of ownership is an important feature of Thai businesses. Indeed, most Thai businesses have been founded and operated by families, both as private and as public companies. Most Thai business founders are Chinese in origin (Bertrand et al., 2008; Polsiri and Wiwattanakantang, 2004), and many of them immigrated to Thailand after the “Bowring Treaty Agreement”<sup>6</sup> in 1855. For example, since the 1910s, the “big five families”<sup>7</sup>, who started their businesses from rice trading, have expanded to both related and unrelated businesses such as rice milling, warehouses, shipping, banking and insurance (Phongpaichit and Baker, 1995, cited in Polsiri and Wiwattanakantang, 2004). In addition, some other Chinese families<sup>8</sup> started businesses in both the finance (banks or insurance) and non-finance sectors in the late 1940s and early 1950s. Most of these Chinese businesses have remained successful because their members are either highly skilled or very experienced in trading, and/or have good connections with Thai politicians<sup>9</sup> (Bertrand et al., 2008; Polsiri and Wiwattanakantang, 2004).

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<sup>6</sup> The Bowring Treaty Agreement was an agreement between the Kingdom of Siam and the United Kingdom. This agreement influenced the Thai government to reduce import and export taxes, resulting in an increase in international trading by foreigners in Thailand.

<sup>7</sup> The Bulakul, Bulasuk, Iamsuri, Lamsam and Wang Lee families have been known as the “big five families” (Piriyarangsarn, 1983 cited in Polsiri and Wiwattanakantang, 2004). However, the Thai revolution in 1947 pressured three of them (Bulasuk, Lamsam and Wang Lee) to end their businesses in rice trading because the politician they supported (Mr. Predi Pranomyong) lost his control in Thai politics.

<sup>8</sup> For example, the Sophonpanich Family (Bangkok Bank Group), Tejapaibul Family (the Metropolitan Bank/World Trade Center/Sang Som Group), Chokwatana Family (Sahapathana/Sahapathanapibul Group), Cholvijarn Family (the Union Bank), Srifuengfung Family (THASCO Chemical Group), Viriyaprapaikit Family (Sahaviriya Group), Chirathivat Family (Central Group) and the Asadathorn Family (Thai Roong Ruang Group) (Brooker Group, 2001).

<sup>9</sup> Based on their experiences from the two revolutions in 1932 and 1947, Thai business groups have learned to create a political network to secure themselves from uncertain political and business environments and to expand their businesses (Polsiri and Wiwattanakantang, 2004).

It is worth noting that Chinese family businesses are different from Western businesses in the sense that they rely mostly on network relationships<sup>10</sup> between families, relatives and friends rather than on market mechanisms (Weidenbaum, 1996). This characteristic has been absorbed into most Thai businesses; business groups are created and managed by groups of families known as “Thai business groups” (Pananond, 2007). According to Brooker Group (2001), the groups are likely to expand their businesses into related activities by establishing new companies that are controlled by the founder of the group. This pattern enables the group to maintain its control over subsidiary companies.

The Thai business groups contribute to their network companies and to other smaller businesses in some respects. Suehiro (1993) suggests that one factor in the continued existence of the Thai business groups in Thailand is the groups’ ability to adjust themselves in response to changes in the business environment. In addition, the groups’ networks and their connections with the government and banks make it easier for other Thai business groups to get support from the government, to finance with debt and to be successful when proposing investment projects to the government (Polsiri and Wiwattanakantang, 2004). This helps them to expand their businesses despite weak institutional environments and unstable political situations. Finally, business expansions by the big business groups also promote the inflow of foreign capital and technology into the Thai economy (Suehiro, 1989 cited in Polsiri and Wiwattanakantang, 2004).

As mentioned, most Chinese family businesses began in the late 1940s and early 1950s, so most of the founders are still alive. Ownership and control of the family businesses are not separated but concentrated within the family groups, and management positions are traditionally assigned to family members; even if founders retire from a group, most of them become honorary advisors. According to Brooker Group (2001), in cases where

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<sup>10</sup> Literature addresses benefits from this relationship in two aspects. The network relationship promotes trust among network groups, in turn reducing the transaction costs incurred in business deals, monitoring and enforcement (Pyatt, 1996). According to Pyatt (1996: 5), “network trust” is a type of “social independence”, which needs long-term assurances of benefits from the relationships developed on the basis of past experience. Another view suggests that the network relationship is necessary for firms in weak institutional environments to create competitive advantages and substitutes for inefficient financial market functions such as inadequate disclosure, transparency and weak corporate governance (Khanna and Palepu, 1997, 1999, 2000; Khanna et al., 2005; Pyatt, 1996).

the founder passes away, control is normally distributed among family members, such as the founder's sons and daughters, without significantly affecting the organisation. However, this tradition may limit the growth of Thai family businesses. For example, the fear of dilution of ownership may prevent the groups from hiring professional managers for senior positions or from seeking professional consultants from outside the business. In addition, groups may prefer to finance with debt than with equity because they do not want to lose their control to outsiders.

According to the World Bank, highly concentrated ownership in the hands of families was one of the reasons for the 1997 financial crisis. Therefore, strengthening the corporate governance system is expected to limit the control of dominant family shareholders over listed companies.

### **3.3.2 The Board of Directors: Are They Independent?**

A board of directors acts as an agent of shareholders to supervise and oversee management teams in listed companies. In Thailand, two main laws, the Public Limited Company Act (B.E. 2535, 1992) (PCA) and the Securities and Exchange Act (B.E. 2535, 1992) (SEA), complement each other in specifying characteristics, roles and accountability for a board of directors in a listed company.

Under the PCA, a Thai board of directors can be characterised as a “unitary board”. The board is required to be comprised of at least five directors. Half of them must hold Thai nationality. The board is required to arrange meetings on at least a quarterly basis. In addition, CEO/chair duality is permitted and there is no limit to the number of directorships that one person can hold. The laws set the “fiduciary duties” of directors in general, stating that “the directors shall perform their duty in accordance with the law, objective, and articles of association of the company as well as resolution of the meeting of shareholders in good faith and with care to maintain interests of the company” (Section 85, PCA, 1992).

Although the laws and regulations about the board were generally in place before the reforms, they do not seem to have been clear enough for directors to apply in practice.

After the crisis, more details of board fiduciary duties and accountability have been gradually added into the amended SEA,<sup>11</sup> aiming to strengthen and to clarify their substance and enforcement (Limpaphayom and Connelly, 2004). In particular, the regulations on directorship place great emphasis on the role of an audit committee.

While listed companies were required by the SECT<sup>12</sup> to have at least two independent directors from 1992 onwards, they were not required to set up audit committees. After the financial crisis, the SECT issued regulations requiring listed companies to appoint audit committees that must consist of at least three independent directors by the end of 1999. The regulation partly aims to improve the quality of the boards in “financial oversight functions”, as recommended by the World Bank (1998), and in addition to boards of directors it recommends nomination and remuneration committees, although these are not compulsory.

In 2005, the SECT amended its regulations such that IPO companies had to have at least three independent directors and an audit committee before their submission date. The latest SECT regulations<sup>13</sup> were amended in 2008, requiring both IPO companies and listed companies for at least one third of board members to be independent and to have at least three independent directors and at least one of them must have sufficient knowledge to review financial statements.

Apart from strengthening regulations, the SECT and the SET have attempted to promote the awareness of directors regarding their role. For example, in order to raise awareness among corporate directors, the Code of Best Practice for Directors was introduced since 1999, clarifying directors’ duties and responsibilities. However, the Code is not compulsory. In the same year, the Thai Institute of Directors Association (IOD)<sup>14</sup> was

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<sup>11</sup> The amendments to the SEA in respect to the board of directors were done in many ways such as through the issuing of new rules and the cancellation, modification or extension of existing regulations.

<sup>12</sup> Notification of the Securities and Exchange Commission, Re: Criteria, Conditions and Methods for Application of Offer for Sale of Newly Issued Shares and Approval, 18 May 1992.

<sup>13</sup> Notification of Capital Market Supervisory Board TorChor. 28/2008, Re: Application for and Approval of Offer for Sale of Newly Issued Shares (Codified), 15 December 2008.

<sup>14</sup> More details of the role of the IOD can be seen on the IOD website. [online] Available from <http://www.thai-iod.com/en/main-activities.asp>. [Accessed on 7 January 2012]

founded as an organisation with the aims of educating and improving the professionalism of directors. Numerous director training programmes continue to be launched, providing directors with knowledge and skills based on good governance principles.

In 2002, the “15 Principles of Good Corporate Governance” (including guidelines for directors) were released, and they were revised in 2006 to comply with the OECD principles (2004). Although the principles are not compulsory, listed firms are required to disclose their compliance/non-compliance to the public. In 2008, the SEA (B.E. 2535, 1992) was amended to include a new chapter, “Governance of Publicly Traded Company”, which specifies more clearly the duties, responsibilities and accountability of corporate directors and includes penalties if they fail to comply.

In light of agency theory (outlined in Chapter 2), a separation of management and control decisions is needed in order to decrease the agency problem (Fama and Jensen, 1983). Nevertheless, this characteristic is rare in most listed firms in the Thai capital market. In fact, most Thai boards have dominant shareholders who normally appoint or become members of the board of directors (World Bank, 2005).

In addition, a survey by Limpaphayom and Connelly (2004), based on the year 2002, found that most non-executive directors have close relationships with their firms. In fact, non-executive directors normally came from affiliate companies and represent creditors, suppliers or professional services. Therefore, combined ownership and control and lack of clarity on the independence of directors have the potential to reduce directors’ awareness of their responsibilities towards other shareholders. In addition, this characteristic may cause non-executive directors to overlook their role and lessen their efficiency in monitoring managers.

Finally, in order to reduce this conflict, the SECT prohibited independent directors from having close relationships with listed companies<sup>15</sup> from 2008 onwards. However, it is

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<sup>15</sup> In the case of IPO companies, they should not have had these relationships for at least two years before the submission date.



unclear whether this actually helps to reduce conflict in practice, because it is not easy to fully identify the relationships between directors, nominees and firms.

### 3.3.3 Leverage and Thai Firms

As in many countries, Thai commercial banks are limited by the Financial Institutions Business Act (B.E. 2551, 2008)<sup>16</sup> when holding shares in other companies.<sup>17</sup> As a result, the banks hold small fractions of shares when compared to other types of large shareholders in Thai listed companies. Nevertheless, Thai Banks play a significant role as the main lenders. Before the 1990s, Thai firms relied more on short-term bank debt rather than on equity (Brooker Group, 2001). This business practice may have resulted from the fact that most Thai businesses had a close connection with banks and the Thai capital market was undeveloped. Although the close relationship between big Thai business groups and banks facilitated the funding of groups for business expansions, the relationship caused banks to overlook their borrowers' performance both before and after the lending.

Since the 1990s, Thai firms, including small and medium-sized businesses have had access to alternative sources of funds from the capital market and the Bangkok International Banking Facilities (BIBF)<sup>18</sup>. According to Brooker Group (2001), the latter has caused Thai firms to turn to heavy borrowing in non-Baht currencies<sup>19</sup> because foreign banks offered cheaper interest rates than domestic banks. The decision to end the system of pegging the Baht with the US dollar in 1997 sharply depreciated it against the US dollar and this seriously affected Thai firms that had taken out substantial loans in

<sup>16</sup> The former Act was the Bank Business Act (B.E. 2505), which was repealed in 2008.

<sup>17</sup> Under the Financial Institutions Business Act (B.E. 2551), financial institutions, including banks, are allowed to hold shares that are (1) not in excess 10% of a company's outstanding shares, (2) not in excess 5% of an their capital funds for each company in which they invest or (3) not in excess of 20% of their capital funds for all the companies in which they invest.

<sup>18</sup> The BIBF was established in 1993 as an offshore banking business. It also acts as an international intermediate bank to facilitate domestic banks to obtain offshore funds to lend either in the domestic market (out-in) or international market (out-out) (Watanagase, 2001).

<sup>19</sup> According to Brooker Group (2001), offshore borrowing did not need official approval from a regulator due to the openness of Thai financial system. It was compulsory for borrowers to register their offshore loans with the BOT at a stipulated date. However, this was done as a part of administrative process rather than for approval.

US dollars without hedging against Baht revenues and led to the financial crisis spreading throughout the Thai economy, as previously discussed.

The 1997 financial crisis revealed a failure of the role of Thai banks as a governance mechanism. Banks themselves also suffered from non-performing loans incurred after the financial crisis. Many banks and financial institutions were closed, taken over by the government,<sup>20</sup> merged or sold to other domestic or foreign banks. The BOT has since imposed more restrictive rules for commercial banks in order to promote good corporate governance within them, in turn promoting the efficient monitoring of their borrowers. This may imply that the role of banks as corporate governance mechanism has been more prominent following the crisis. However, many restrictive rules may have created further conflict of interests between banks and shareholders than existed before the crisis.

### **3.3.4 Thai Accounting and Auditing Standards and the Role of External Auditors**

Accounting and auditing standards and practitioners (external auditors) play an important role in the development of corporate governance by improving the quality of financial reporting, which in turn reduces the gap of information between managers, dominant shareholders and other shareholders.

In Thailand, Thai Accounting Standards (TASs) and Thai Standards of Auditing (TSAs) have been officially published since 1977 by the Federation of Accounting Professions<sup>21</sup> (FAP), after the establishment of the capital market. These standards aim to be the official guidelines to ensure a high quality of financial reporting, particularly for listed companies. Although TASs and TSAs were developed based on international

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<sup>20</sup> For example, the Bangkok Metropolitan Bank (Tejapaibul Family), the Bangkok City Bank (Sirivadhanabhakdi Family), the Laem Thong Bank (Chansrichawla), the Nakornthon Bank (Wanglee Family), the Siam City Bank (Crown Property Bureau) and the Union Bank of Bangkok (Cholvijarn Family) were taken over by the Thai government after the crisis.

<sup>21</sup> Before the financial crisis, the TASs and TSAs were issued by the Institute of Certified Accountants and Auditors of Thailand (ICAAT). In 2005, after the crisis, the ICAAT was discontinued and the Federation of Accounting Professions (FAP) was established to supersede the ICAAT role.

standards<sup>22</sup>, both of them had been adjusted to be suitable for the Thai business environment before the financial crisis. In addition, listed companies have been legally required by the SECT to prepare quarterly and year-end financial statements, in accordance with the TASs, since the establishment of the SECT in 1992. The SECT<sup>23</sup> also allowed listed companies to apply either the International Financial Reporting Standards (IFRS), Financial Accounting Standards (FAS) or the United States General Accepted Accounting Principles (US GAAP) for any accounting issues that were not specified in the TASs.

In addition, financial statements submitted to the SECT must be certified (reviewed in case of quarterly reports) by external auditors who conduct their work in accordance with the TSAs. Listed companies also are required to submit their auditor report to the SECT with an “unqualified auditor’s opinion”. Since 1993, external auditors, who have the authority to express their opinions on the financial reporting of listed companies, must be on the approved lists of the SECT<sup>24</sup>. This practice unintentionally limits the qualified auditors who can express their opinions to the BIG4<sup>25</sup> and large local auditing firms.

In 1998, the World Bank (1998) commented that the reliability and quality of financial reporting and disclosure in Thailand had not met international standards. In addition, enforcements and sanctions on violations of accounting and auditing standards by self-regulatory agencies were claimed to be weak in practice. In order to regain investors’ confidence in financial reporting after the crisis, the FAP continually improved the

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<sup>22</sup> At the beginning, TASs and TSAs were developed based on either the US GAAP or International Accounting Standards (IAS).

<sup>23</sup> The SECT regulations about public disclosure by listed companies have been amended several times in response to changes in the business environment since the first issuing on 18 May 1992. Nevertheless, the main contents have still remained until the present [see the latest regulation in Notification of Capital Market Supervisory Board TorChor. 11/2009, Re: Principles, Conditions and Approach of Information Disclosure about Financial Positions and Performance of Securities Issuers (Codified), 13 March 2009].

<sup>24</sup> The approval of each auditor was based on the opinion of the FAP (previously ICAAT). Since 2010, the SECT has been responsible for conducting both the verification of auditors’ qualifications and quality control in auditing firms and the approval of auditors.

<sup>25</sup> The BIG4 includes Deloitte, KPMG, PricewaterhouseCoopers and Ernst & Young. Since Thai law limits accounting professionals to Thai nationals, these firms have merged with large Thai auditing firms.

quality of accounting and auditing standards in order to meet the International Accounting and Auditing Standards.

The SECT also strengthened its supervision of the quality of auditors for listed companies, providing training and close monitoring of their work. In addition, in order to promote auditor independence, since 2005, the SECT requires listed companies to rotate the audit partners who lead audit engagements every five years. Nevertheless, new auditors can come from the same audit firms. In summary, improvements in the quality of accounting and auditing standards and a stronger role of enforcement by both the SECT and the FAP are expected to have increased the reliability and transparency of financial reporting and accounting information after the reforms.

### **3.3.5 Legal Protections and Market for Corporate Control: Do They Work in Practice?**

The legal system in Thailand consists of a wide set of regulations that either specify shareholders' rights or limit insiders' actions in order to protect shareholders from any expropriation by insiders. Most shareholders' rights are specified in the Public Limited Company Act (B.E. 2535, 1992) (PCA) and the Securities and Exchange Act (B.E. 2535, 1992) (SEA).

Under the PCA, shareholders have right to appoint or remove directors and auditors in the normal course of business. To dismiss directors, it needs a 75% majority of votes from shareholders who attend the meeting. In addition, the sum of shares owned by these shareholders must not be less than 50% of the sum of shares owned by all attending shareholders. To appoint directors or external auditors, only 50% of the votes from attending shareholders are needed. In addition, major events such as mergers and acquisitions or the sale of significant company assets require approval at the shareholders' meeting. In general, ordinary shares are based on the "one share one vote" rule because the law prohibits companies from issuing either shares with different voting rights or non-voting shares. If absent from a meeting, shareholders have to rely on a representative to act as a proxy in the actual meeting because voting by mail or

electronic mail are not allowed by law. Listed companies are also governed by the SEA, which provides more detail<sup>26</sup> on shareholders' rights.

Although the legal protections in Thailand seem to be similar to those used in other countries, their enforcement has been described as weak. For example, the legally specified rights of shareholders are not fully enforced by shareholders in practice (Alba et al. 1998). Limpaphayom and Connelly (2004) show that it is difficult for shareholders to receive an agenda and proxy voting instruction on time. There have also been rare cases in which minority shareholders have taken legal action against managements because of time-consuming procedures and high costs. Votes against poor managers are also difficult to win because they normally come from the same group of dominant shareholders. Additionally, nominees are quite common in Thai firms (Limpaphayom and Connelly, 2004), partly as a result of network relationships (Brooker Group, 2001). Although the law prohibits shareholders from exercising their vote to benefit themselves, nominees may vote to support their interests, providing they do not disclose their relationship with specific shareholders.

After the financial crisis, the SECT has continuously strengthened minority shareholder protections, including efficient enforcement. In response to the World Bank's recommendations, the SEA was amended in 2008 to include more shareholder protection, allowing minority shareholders more opportunities to vote against poor managers. For example, shareholders, who jointly hold 5% of outstanding shares, can now sue opportunistic directors or managers to return interests that they extract back to the company and can propose subjects to be considered in meeting agendas.

The SEA also allows takeover mechanisms to be used in the Thai capital market. To protect minority shareholder rights, anyone who initially owns a number of shares over a triggering threshold (more than 25% of outstanding shares) is required to make a tender offer for the rest of the issued shares. However, it is possible to waive the need for this

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<sup>26</sup> For example, the law specifies a process for organising an annual general meeting (AGM), clear duties and responsibilities of directors and executives, proxy solicitation and voting rights, disclosure and transparency, and provisions.

by asking permission in a shareholders' meeting. In 2008, the amended SEA required takeover defences to be approved in shareholders' meetings. Although the law provides room in the market for corporate control, it is no surprise that this market is not active in practice. Takeovers, and hostile takeovers in particular, are quite rare in Thailand. As suggested in the literature, high concentrated ownership in Thai firms reduces the number of opportunities for successful takeovers.<sup>27</sup>

### **3.4 Summary and Conclusions**

The Thai capital market was established nearly 40 years ago and is still young compared to capital markets in the US or the UK. The capital market was initially established under an international framework that was guided by the World Bank (The SET, 2008a). However, it appeared that market mechanisms did not function as well as could be expected. In fact, the capital market was accused of being inefficient in terms of the low quality of disclosure and transparency, the legal framework, the monitoring process and enforcement (Fan and Wong, 2002; World Bank, 1998, 2005). However, this issue was not significantly addressed until the collapse of financial systems in East Asia in mid-1997.

Although the need to improve corporate governance in Thailand had already been discussed to some degree prior to 1997, at that time both the awareness of corporate governance problems and the effectiveness of existing corporate governance mechanisms was very limited. The financial crisis revealed weaknesses in the existing corporate governance system, and a high concentration of family ownership was partially blamed for the problem (World Bank, 1998). Close relationships between dominant shareholders and banks was suggested to be a cause of over borrowing by most listed firms (Limpaphayom and Connelly, 2004). Additionally, this feature may have limited the demand for high quality financial reporting because dominant shareholders could easily access inside information (Wang, 2006). Consequently, the crisis discredited the capital market and reduced investors' confidence in it.

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<sup>27</sup> See Becht (1997) and Goergen (2005).

Following the 1997 financial crisis, the need for corporate governance reforms was recognised as much more pressing. Such reforms aimed to increase the capital market's efficiency in terms of more transparency in disclosures, a higher quality of financial reporting and stronger legal protections. The reform was also expected to improve investors' confidence after the financial crisis and to enhance the performance of listed companies, in turn making the Thai capital market more attractive to investors. Many corporate governance mechanisms and frameworks have been introduced and implemented, such as the adoption of an international corporate governance framework, the introduction of training for directors, a reform of accounting and auditing standards, new laws and legal protection. The recent assessment by the World Bank shows that there has been significant improvement in corporate governance practices (the World Bank, 2013).

However, there is still little known about whether firms still gain net benefits from concentrated ownership following the reforms, and whether other corporate governance mechanisms implemented after the reforms work as intended at firm level. Therefore, to enlighten these questions it is important for market regulators and policy makers to continuously develop a system of corporate governance that is suitable for Thailand.

The subsequent chapters of this thesis aim to reinvestigate on an empirical basis whether concentration of ownership might have been detrimental or beneficial to listed firms in Thailand before the crisis and the reforms. It also contributes to the existing literature by investigating whether the impact of ownership concentration on firm performance and managerial behaviour in respect to accounting discretion has changed after the introduction of corporate governance reforms. In addition, it aims to provide evidence of whether investors have been able to perceive these impacts correctly before and after the reforms.

## **Chapter 4: The Impact of Ownership Structure on Firm Performance**

### **4.1 Introduction: Motivations and Research Questions**

In their seminal work, Berle and Mean (1932) point out that the separation of ownership and control can potentially create a problem in modern corporations, rooted in the conflict of interest between managers and shareholders (Jensen and Meckling, 1976).

Common shares are a source of cash-flow rights and control rights for owners of corporations (Fama and Jensen, 1983). Concerns that some managers in large, listed companies held few or no cash-flow rights in the companies they managed (and that their interests could therefore significantly deviate from those of the shareholders) has led to a substantial rise in research on the influence of ownership structure on firm performance in the UK and the US (for examples, see Morck et al. 1988; McConnell and Servaes 1990; Short and Keasey, 1999) and, later, in Continental Europe and the East Asia (for examples, see Bennedsen and Nielsen, 2010; La Porta et al. 1999). While, initially, large shareholders who were either directly involved in the management, or at least the supervision of the management, of a firm were expected to reduce agency problems, later research has started to acknowledge another agency problem: large shareholders may use their control rights to exploit a firm and its minority shareholders.

Findings of previous research into the relationship between ownership structures and firm performance are relatively inconsistent. The variation in the findings is partially due to methodological differences in the research (ranging from divergent definitions of block ownership to the use of different statistical methods) but is also a result of different institutional environments at firm and national levels (such as regulation, culture, corporate governance and data limitation).



This chapter aims to provide evidence on the potential impact of ownership structure on firm performance in the context of an emerging economy, Thailand. As discussed in Chapter 3, high ownership concentration leads to the combination of ownership and control in the hands of dominant family shareholders, which leads to a different scenario from that expected by Berle and Mean (1932). This was claimed to be a key cause of the 1997 financial crisis in Thailand, and consequently, corporate governance reform has been introduced in order to regain creditability and to increase investors' confidence in the capital market.

Research into the potential impact of ownership structure and firm performance in Thailand is still limited. Following the corporate governance reforms, research investigated the impact of blockholders on corporate performance in Thai listed companies, but only Suehiro (2001) actually took account of the potential impact of family block ownership. In addition, previous research tends to have focused exclusively on the periods prior to or after the reforms (Limpaphayom and Connelly, 2004).

Recently, Carney and Child (2012) examined the change of ownership structure in East Asian corporations from 1996 to 2008, including Thailand. However, they also failed to consider whether the corporate governance reforms had enhanced firm performance. There is therefore a lack of clarity on the effect of Thai ownership structure in long term. Furthermore, there is still a question over whether the corporate governance reforms have actually contributed to the capital market as intended. Clearer answers to these questions are very important to policy makers in developing appropriate corporate governance systems that are optimised for Thai listed companies.

Therefore, this chapter addresses three main questions:

Q4.1: Whether there has been a change of ownership structure in Thailand over the periods of study

Q4.2: Whether ownership structure has had a beneficial or detrimental impact on the performance of listed companies

Q4.3: If ownership structure has had some influence on firm performance, whether the influence has improved after corporate governance reforms.

This study has extended the previous research in Thailand in several ways.

Firstly, ownership and accounting data has been carefully collected from a unique set of databases in Thailand, which have allowed the identification of an ultimate shareholder and its group for each listed company. This has improved the quality of variables used in this study.

Secondly, this study uses data from the 14 years from 1994 to 2007<sup>1</sup>, which cover two major events: the 1997 financial crisis and the corporate governance reforms. The limitation of the available data on ownership has restricted researchers to conducting their tests on short periods. Additionally, there is a lack of evidence on the outcomes of the reforms in respect to listed firms. This study is therefore one of the first to examine the potential impact of ownership structure on firm performance before and after the corporate governance reforms in Thailand. This study also adds to a growing body of literature regarding an on-going debate about whether corporate governance reforms actually result in benefits rather than costs to firms in the context of emerging economies.

Thirdly, unlike previous research in Thailand, the long-term panel data used in this study allows a fixed-effects model to be applied to control for unobserved firm heterogeneity, improving the validity of the results.

Fourthly, while family is likely to own substantial shares in most of Thai listed firms, there still is a presence of other types of blockholders in many listed firms. Existing literature suggests that different types of shareholders have different motivations and incentives to hold shares in firms and this could affect to their degrees of alignment of interests. Therefore, this study investigates the impacts of various types of shareholders (i.e. family, government, foreign company, bank and non-bank financial institution) on firm performance in the context of emerging economies.

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<sup>1</sup> Emerging economies including Thailand have been affected by the global financial crisis which began late 2007/early 2008. Therefore, this study does not use samples from after the year 2007, since the effect of the global crisis might distort the impact upon firm performance of ownership structure and other aspects of corporate governance.

Finally, because ownership structure may affect the efficiency of other governance mechanisms in the Thai capital market, a better understanding of its role in firm performance could benefit policy makers who are developing appropriate policies and guidelines to improve the efficiency of the corporate governance system. It could also help with the creation of guidelines for other capital markets in emerging economies.

The remainder of this chapter is organised as follows: Section 4.2 presents a literature review and the development of the hypothesis. The research methodology, the variable definitions and the sampling and data collection are shown in Sections 4.3, 4.4 and 4.5 respectively. Empirical evidence and sensitivity tests are discussed in Sections 4.6 and 4.7 respectively, and the last section provides the conclusion to the chapter.

## **4.2 Literature Review and Hypothesis Development**

As discussed in Chapter 3, most Thai listed companies have highly concentrated ownership and most of them are controlled by dominant shareholders. In addition, most dominant shareholders are involved in the management of firms. Therefore, the following sections review the literature covering (1) the impact of ownership concentration and the presence of dominant shareholders on firm performance, (2) the impact upon firm performance of ownership concentration from different types of shareholder and from dominant shareholders according to their identities, (3) the impact of managerial ownership on firm performance and (4) the corporate governance reforms and their implications.

### **4.2.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Firm Performance**

In respect to the theory discussed in Chapter 2, the hypothesis of the alignment of interests suggests that large shareholders with substantial shares should have more incentive and power to provide efficient monitoring and closely supervise managers because their wealth from cash-flow rights is substantially affected by firm performance. Holderness (2003) asserts that the benefits of the efficient monitoring provided by blockholders are also shared to minority shareholders and firms. Therefore, this

hypothesis predicts a positive impact of ownership concentration on firm performance: a firm's performance increases as share ownership increases.

However, if the interests of large shareholders diverge from firm value maximisation, these shareholders may exercise their power to influence managers to act for their own benefit rather than that of minority shareholders and firms (Burkart et al., 1997; Holderness, 2003; Young et al., 2008; Zerni et al. 2010). This notion therefore predicts a negative relationship between ownership concentration and firm performance: a firm's performance decreases as share ownership increases.

In addition, one of distinct characteristics of firms with concentrated ownership is that they have one or more blockholders or dominant shareholders. Earlier research in the US or the UK has viewed the presence of large shareholders as a mechanism that enables outside shareholders to cooperate in order to hold managers to account, usually without being able to individually dictate a firm's business policies. Research in the US normally uses the term "blockholders", "large shareholders" or "majority shareholders" to represent shareholders who own block of firm's shares. The identification of block ownership depends on thresholds that are often based on legislative reporting requirements, ranging from the ownership of 10-20% to 3-5% of shares. Large shareholders are expected to have sufficient cash-flow rights tied up in the firm to give them an incentive to monitor the firm and, if necessary, instigate cooperation with other shareholders to sanction poorly performing managers.

Later research, especially in the Asian context, normally uses the term "dominant shareholder" or "controlling shareholder" rather than "blockholder" to identify large shareholders who individually own or control sufficient shares or voting rights to enable them to control the firm. In the context of the Thai capital market, this thesis uses the term "dominant shareholders", emphasising their willingness to control a firm rather than merely to gain voting rights in order to protect themselves from poor management.

Dominant shareholders can use either pyramidal or cross-sectional structures to separate voting rights (control) and cash-flow rights (ownership) and thereby create other

channels for dominant shareholders to exploit minority shareholders (Bebchuk et al, 2000; Grossman and Hart, 1988). Therefore, while dominant shareholders may be self-constrained by their block ownership, the presence of pyramidal or cross-sectional structures may facilitate their exploitation of corporate assets without them having to bear the costs from the exploitation. Research that found evidence of exploitation by dominant shareholders in firms where control rights are higher than cash-flow rights includes Bennedsen and Nielsen (2010); Edwards and Weichenrieder (2004), in Germany; Lemmon and Lins (2003), in eight East Asian countries; and Lins (2003), in 18 emerging markets<sup>2</sup>.

#### ***4.2.1.1 Prior Research on US Firms***

Having identified the presence of blockholders in US listed firms, research in the US context turns focuses on the impact of blockholder ownership on firm performance.

Holderness and Sheehan (1988) compared the performance of firms with and without blockholders. They found no significant difference between the two groups, measured by Tobin's q, and the accounting rate of return. They also found that blockholders were likely to be involved in management. They therefore suggest that shareholders are motivated to become concentrated in order to be managers rather than to provide efficient monitoring.

McConnell and Servaes (1990) found no evidence to support that ownership by blockholders<sup>3</sup> influences firm performance in terms of efficient monitoring. Mehran (1995) also found no relationship between outside blockholders who do not involve in management and firm performance, in the manufacturing industry. By regressing firm performance on different identities of blockholders<sup>4</sup>, he also found no significant relationship between them. Seifert et al. (2005) studied four countries (the US, England,

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<sup>2</sup> The 18 emerging markets in Lin (2003) consist of Argentina, Brazil, Chile, the Czech Republic, Hong Kong, Indonesia, Israel, Malaysia, Peru, Philippines, Portugal, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, Thailand and Turkey.

<sup>3</sup> "Blockholder", as used in McConnell and Servaes (1990), is defined as a shareholder who owns 5% or more shares in a firm.

<sup>4</sup> The identities of blockholders used in Mehran (1995) include institutional investors, individual investors and corporations.

Germany and Japan). Regarding the US sample, they suggest that OLS regression and 2SLS provides opposite results; while they found a positive effect of blockholders on Tobin's  $q$  using OLS, they found a negative effect under 2SLS.

Therefore, a failure to identify types of shareholder may lead to an insignificant impact of blockholder ownership on firm performance being detected, partly because different types of blockholder have different motivations and abilities to provide efficient monitoring (McConnell and Servaes, 1990). For example, long-term investors are normally more active than short-term investors are, when it comes to monitoring managers (Mehran, 1995). Roe (1990) suggests that institutional investors and banks may be restricted by law from holding significant shares in a company. Hence they may not have sufficient power to provide efficient monitoring. In addition, Barclay and Holderness (1991) assert that firm performance is affected by the experience and special skill of blockholders. This may imply that the efficiency of monitoring depends on these factors rather than on who owns shares in a firm.

In conclusion, existing literature on the US does not provide strong evidence to support either the beneficial or the detrimental effects of blockholder ownership and may imply that the US corporate governance system relies on other corporate governance mechanisms, such as the board of directors and strong shareholder protection. These mechanisms could negate the need for large shareholders to monitor managers' behaviour.

#### ***4.2.1.2 Research outside the US***

Research on the effects of ownership concentration on firm performance is more widespread in countries outside the US, such as those in Continental Europe or Asia. In addition, much of this research focuses on whether firms with dominant shareholders have superior performance to that of firms without dominant shareholders.

Among others, Claessens and Djankov (1999) report a positive relationship between concentrated ownership and firm performance, measured by firm profitability and labour productivity in the Czech Republic. Seifert et al. (2005) found both a positive and a

negative effect of blockholders on firm performance using OLS and 2SLS in German firms and the UK, respectively. Applying a generalised method of moments (GMM), Miguel et al. (2004) found evidence to support a non-linear relationship between concentrated ownership and market performance. They found that concentrated ownership in Spanish listed firms was associated with higher firm performance when ownership ranged from 0% to 87%. However, the relationship was negative beyond 87%.

Taking into account the imbalance between cash-flow and control rights, in Germany, Edwards and Weichenrieder (2004) found evidence of exploitation by dominant shareholders with higher control rights than cash-flow rights, which in turn reduced firm performance. In fact, dominant shareholders with higher cash-flow rights than control rights had a positive effect on firm performance. Additionally, their study posits that an increase in control rights by the second largest shareholders benefits minority shareholders in German firms, leading to higher firm performance. Their results are robust to all types of dominant shareholder<sup>5</sup>, except for those from public sector. Lins (2003) reports a significant positive relationship between outside blockholders with control rights and firm performance, measured by Tobin's q in 18 emerging countries. The results were stronger in countries with poor minority shareholder protection<sup>6</sup>. Nevertheless, the results from 2SLS showed some evidence that outside blockholders were likely to have control rights in firms with high firm performance.

In the context of Asian countries, Haniffa and Hudaib (2006) document that ownership by the top five blockholders was positively related to firm performance, measured on the basis of accounting, in Malaysia. Morck et al. (2000) also report a positive effect of corporate blockholders on firm performance in Japan, suggesting efficient monitoring by blockholders. However, Seifert et al. (2005) could not find any significant effect of blockholders on firm performance in Japanese listed firms, using OLS and 2SLS.

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<sup>5</sup> In Edwards and Weichenrieder (2004), dominant shareholders were also classified by their identities as individuals or families, non-bank corporations, banks, public sector bodies and foreign companies.

<sup>6</sup> In Lin (2003), poor minority shareholder protection is categorised by the degree of antidirector rights measure ( $< 4$ ) and the Rule of Law measure ( $< 7$ ) suggested by La Porta et al. (1998).

In summary, the principal-agent theory and evidence from existing literature suggest that increasing levels of ownership could either align or divert the interests of large shareholders to/from those of firms or other shareholders. In Thailand, Wiwattanakantang (2001) and Yammeesri (2003) found that firms with the presence of dominant shareholders have superior performance than firms without the presence of dominant shareholders before the financial crisis. Yammeesri (2003) also reports that controlling ownership (>25%) was significantly related to both accounting and market performance before the financial crisis (1993 – 1996) but was significantly related to accounting performance after the financial crisis (1998 – 2000). Nevertheless, Limpaphayom (2001) found no significant evidence for this relationship. The difference in results may be caused by differences in ownership data. While the definition of share ownership used in Limpaphayom (2001) included shares held by the top-five shareholders, the first two studies focused on the effects of the presence of dominant shareholders who held more than 25% of shares outstanding.

The previous research discussed above provides some clues that the high concentrated ownership and/or the presence of a dominant shareholder may play a substitutive role for a weak governance system in the Thai capital market before the corporate governance reforms. As discussed in Chapter 3, many large listed firms normally have high concentrated ownership and many of them have a good network relationship with their network companies, government or banks that potentially contribute to the firms in terms of such as an ability to response to a change in business environment (Suehiro, 1993) or financial supports (Polsiri and Wiwattanakantang, 2004).

However, the existing evidence based on the Thai context on the impact of ownership concentration and the role of a dominant shareholder on firm performance is still limited to short period either before or after the financial crisis. To provide more clear evidence, this study propose the first two hypotheses based on the alignment of interests as follow:

*H<sub>a1</sub>: Ownership concentration has a positive impact on firm performance.*

*H<sub>a2</sub>: The presence of a dominant shareholder has a positive impact on firm performance.*



### **4.2.2 The Impact of Ownership Concentration by Shareholders' Types and the Presence of Dominant Shareholders by their Types on Firm Performance**

As discussed in Chapter 2, different types of shareholder may have different motivations for holding shares in firms. In addition, evidence from existing literature suggests that, with different motivations and incentives, ownership of different types of shareholder may affect firm performance in either positive or negative directions. This study focuses on five types of shareholder: families, governments, foreign company investors, banks and financial institutions.

#### ***4.2.2.1 Family***

As discussed in Chapter 2, Section 2.5.1, existing research views family ownership as a structure that helps to reduce the agency problem, because the interests of family members are likely to align with those of the firm they own (for example family ties, efficient monitoring and communication among family members, long-term objective with firms).

Among others, Anderson and Reeb (2003) found that firms with continued founding-family ownership<sup>7</sup> performed at least as well as non-family firms in the US S&P 500, after taking account of firm age, family-CEO position, separation of control and cash-flow rights and the endogeneity problem. They also document that family firms with family CEOs had better firm performance than those with non-family CEOs. However, their study suggests that the relationship is nonlinear. Hence firm performance decreases as the proportion of shares owned by family increases. This may imply that family owners can become entrenched if their control increases. Villalonga and Amit (2006) found that only firms with a founding family member serving as CEO or as a chairman with a non-family CEO had enhanced performance in the US.

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<sup>7</sup> Anderson and Reeb (2003) also report that controlling families, on average, hold 18% of shares in their sample firms.

Maury (2006) reveals that firm performance is higher in firms with active dominant family shareholders than in firms with passive or no dominant family shareholders, as is more often the case in Western European countries. Mishra et al. (2001) report that firms with older founding family owners are associated with higher firm performance in Norway, and Martínez et al. (2007) and Bonilla et al. (2010) also find superior performance among firms with dominant family shareholders in Chile, in their study based on market (Tobin's  $q$ ) and accounting performance (ROA, ROE). Improved performance in family-controlled firms has also been found in Japan (Asaba and Kunugita, 2007) and Thailand (Wiwattanakantang, 2001; Yammesri et al., 2006), while in Canada, King and Santor (2008) report that only family-controlled firms with a single class of shares have better accounting performance than non-family controlled firms.

By contrast, family owners may destroy firm performance if their objectives in holding shares diverge from the firm value maximisation. For instance, DeAngelo and DeAngelo (2000) document the poor performance of the Times Mirror Company, a Fortune 500 company with a controlling family. They also report cases of the exploitation of minority shareholders by dominant family shareholders, in the form of special dividend payments only for family shareholders. Similarly, Faccio et al. (2002) argue that dominant shareholders, especially family shareholders, exploit minority shareholders in Western Europe by means of lower dividend payments. From Finland, Maury and Pajuste (2005) document evidence of minority shareholder exploitation by dominant family shareholders, resulting from a lack of efficient monitoring by other dominant shareholders. Villalonga and Amit (2006) found some evidence of exploitation by controlling families when mechanisms such as pyramidal structures were used. Similarly, King and Santor (2008) document that family firms with dual-class shares perform worse than those with dispersed ownership. Anderson and Reeb (2003) report some evidence of entrenchment by dominant family shareholders, and suggest that families might exit sooner than other shareholders from firms with poor (or foreseeable poor) performance.

Additionally, firm founders are likely to transfer a business to their heirs, even if their heirs are not particularly competent. This may therefore lead to poorer firm performance at the expense of other shareholders (for example, see Bertrand et al., 2008; Mehrotra et al., 2013).

In summary, evidence from existing literature provides mixed results, which either support the alignment or divergence of interests hypotheses. Research in Thailand before the financial crisis found evidence that firms with a dominant family shareholder had superior performance than firms without them (e.g. Wiwattanakantang, 2001; Yammeesri, 2003). Yammeesri (2003) and Yammeesri et al. (2004) report that family-controlled ownership and the presence of a dominant family shareholder were positively significant only to accounting performance after the financial crisis (1998 – 2000). Similarly, Connelly et al. (2012) found no relationship between family ownership and market performance (Tobin's q) for the listed firms in 2005.

In fact, most of listed firms were founded by founding family, which are normally a well-known family in the Thai society. Like many Asian countries, a relationship among family members is very close in the Thai family and it may enhance family ties e.g. love, trust and loyalty among them. These characteristics could better align interests of family shareholders with their firms. Additionally, while the previous research in Thailand does not provide strong empirical evidence of exploitation by family firms, the research has limited its study to the short-term period. Therefore, this study re-examines the impact of family ownership and the presence of a dominant family shareholder on firm performance in longer period and proposes the hypotheses based on the alignment of interests as follow:

*H<sub>a3</sub>: Family block ownership has a positive impact on firm performance.*

*H<sub>a4</sub>: The presence of a dominant family shareholder has a positive impact on firm performance.*

#### **4.2.2.2 Government**

As discussed in Chapter 2, Section 2.5.2, governments may invest in private and/or listed firms for many reasons, political, economic or social. Their differing objectives may lead to different effects on firm performance (Chen, Firth and Xu, 2009).

Intensive research on government ownership and firm performance has been carried out in China. Sun et al. (2002) examined the relationship between the privatisation of firms, which were still owned partly by the state, and firm performance. They report a positive, non-linear relationship. However, at higher levels of ownership, the interests of dominant government shareholders were shown to diverge from the firm value maximisation.

Chen, Firth and Xu (2009) classified state-owned firms into three main categories<sup>8</sup> based on the government's political and economic objectives. They suggest that the degree of government involvement in supervision and monitoring and the level of experience of CEOs are the main factors influencing a firm's performance. In particular, they found that state-owned firms that were controlled by the central government performed better than other types of state-owned firm. In fact, these firms were closely supervised and monitored by several departments under central government control (such as the National Audit Office, NAO). In addition, it was more likely for the CEOs of these firms to be highly competent.

Le and Buck (2011) found that a government might use political power to pursue its goals, creating some costs for the firms; however, the net effect is not harmful to overall firm performance.

In summary, the evidence from existing literature is mixed. In Thailand, government owned firms are either a pure monopoly business (e.g. Airports service) or the biggest firms in the same sectors (e.g. Energy and Utilities). This could motivate the government

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<sup>8</sup> Chen, Firth and Xu (2009: 172) classify state-owned firms into SAMBs (state asset management bureaus), SOECGs (SOEs affiliated to the central government), and SOELGs (SOEs affiliated to the local government).

blockholder or a dominant government shareholder to provide efficient monitoring to its firms. Previous research in Thailand such as Wiwattanakantang (2001) found that firms with dominant government shareholders perform better than firms without dominant shareholders do before the financial crisis. Because no strong evidence on the exploitation by Thai government was addressed by the previous studies, this study re-examines the impact of government ownership and the presence of a dominant government shareholder on firm performance in longer period and proposes the hypotheses based on the alignment of interests as follow:

*H<sub>a5</sub>: Government block ownership has a positive impact on firm performance.*

*H<sub>a6</sub>: The presence of a dominant government shareholder has a positive impact on firm performance.*

#### **4.2.2.3 Foreign Investors**

Foreign investors are investors who do not hold the same nationality as the countries in which they have invested.

As discussed in Chapter 2, Section 2.5.4, they can come from two main groups: multinational companies (MNCs) and foreign institutions (such as banks and financial institutions). The key benefit from MNC investment is in the form of specific knowledge or technology that can be transferred from foreign companies to domestic companies. Nevertheless, an MNC may be more interested in increasing its performance (expanding its market or reducing the cost of production) than in providing better monitoring.

Foreign institutional investors may benefit domestic companies as another source of funding and may exert some pressure to improve corporate governance. However, if their investment objective is simply to diversify their portfolio, they might lack incentives to monitor and control a firm. In addition, their degree of monitoring may be limited by distance and differences in culture.

Existing research reveals that the proportion of foreign investors' ownership may help to increase their power and incentive to be involved in monitoring processes. For example,

in Japan, Ghahroudi (2011) found that high levels of foreign ownership led to situations in which firms were managed by foreign representatives and operated by many foreign employees. He suggests that this characteristic enhances the transfer of knowledge and, in turn, partly contributes to firm performance. He also addresses other factors that lead to different effects from foreign ownership: in particular, the size of MNCs and managerial control costs. Seifert et al. (2005) also found a significant positive relationship between ownership by foreign investors and firm performance in Japan.

In summary, the evidence from existing literature is mixed. In Thailand, foreign investors who hold substantial shares in Thai listed firms are normally MNCs<sup>9</sup>. This could provide benefit to local firms in terms of a transfer technology and enhance a motivation to provide better monitoring to the firms. Additionally, government attempts at promoting foreign investment after the crisis could motivate many foreign institutions to increase their investment in the Thai capital markets. Therefore, this may increase their motivation to invest in firms' monitoring process.

Research in Thailand such as Wiwattanakantang (2001) reveals that firms with a presence of dominant foreign investors perform better than firms without them before the financial crisis. However, Yammeesri (2003) could not find a relationship between foreign controlled ownership and firm performance before and after the reform. Nevertheless, he found the significantly positive effect of the presence of a dominant foreign company shareholder on accounting performance measured by sales-to-assets ratio after the financial crisis. Because no strong evidence on the exploitation by foreign company shareholder was addressed by the previous studies, this study re-examines the impact of foreign company ownership and the presence of a dominant foreign company shareholder on firm performance in longer period and proposes the hypotheses based on the alignment of interests as follow:

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<sup>9</sup> The MNCs are limited by the Foreign Business Act B.E. 2542 (1999) not to hold more than 50% of shares outstanding with voting rights. Therefore, they are likely to jointly invest with local companies. For example, Thai Wacoal Public Company Limited, which produces ladies' lingerie products in Thailand, is a joint venture between the Wacoal Corporation of Japan and the Sahapathana Group, the latter of which is controlled by the Chokwatana family.

*H<sub>a7</sub>: Foreign company block ownership has a positive impact on firm performance.*

*H<sub>a8</sub>: The presence of a dominant foreign company shareholder has a positive impact on firm performance.*

#### **4.2.2.4 Banks and Non-Bank Financial Institutional Investors**

As discussed in Chapter 2, Section 2.5.3, the incentives for banks and non-bank financial institutional investors to hold shares in firms may either provide benefits or create costs.

McConnell and Servaes (1990) report a positive association between ownership of institutional investors and firm performance in the US. A study in the US by Seifert et al. (2005) also found a positive relationship between institutional investors and firm performance when OLS was applied, but the relationship became negative when 2SLS was applied. The contradictory result may be caused by a failure to classify the types of institutional investor (Bhattacharya and Graham, 2007).

In Finland, Bhattacharya and Graham (2007) classified different types of institutional investor<sup>10</sup> as either “pressure-sensitive institutional owners” or “pressure-resistant institutional owners” and found that both groups were positively related to firm performance.

Gorton and Schmid (2000) reveal a positive relationship between banks with higher control rights and firm performance in Germany. They also did not find evidence of banks in Germany exploiting minority shareholders by means of proxy voting or equity shareholdings. By assuming a non-linear relationship, Morck et al. (2000) report a positive relationship between bank ownership and firm performance at high levels of bank ownership. They suggest that Japanese banks with high levels of ownership are likely to relax criteria for investment, allowing firms to invest in more profitable projects.

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<sup>10</sup> Bhattacharya and Graham (2007) classified insurance companies, banks, and non-bank trusts as “pressure-sensitive institutional owners”, while public pension funds, mutual funds, endowments and foundations were classified as “pressure-resistant institutional owners”

As discussed in Chapter 3, banks play an important role as lenders in Thailand before the financial crisis but the role of bank as equity owners become more important after the financial crisis. Limpaphayom and Polwitoon (2004) reveal that banks, as equity owners, had a positive effect on firm performance, measured by Tobin's q before the financial crisis. However, the relationship was non-linear, indicating entrenchment at high levels of ownership. Yammesri (2003) found that firms with a presence of bank equity ownership in the top-ten shareholders did not perform better than those without bank equity ownership in term of market performance. He also found that the former performed worse than the latter in term of sale-to-asset ratio. The evidence was consistent between periods before and after the financial crisis.

In summary, the previous evidence in Thailand is still mixed. Additionally, the increasing in bank ownership, especially after the financial crisis and the more efficiency of bank regulator after the corporate governance reforms could motivate bank owners to participate more in firms' monitoring. Therefore, this study re-examines the impact of bank ownership and the presence of a dominant bank shareholder on firm performance in longer period and proposes the hypotheses based on the alignment of interests as follow:

*H<sub>a9</sub>: Bank block ownership has a positive impact on firm performance.*

*H<sub>a10</sub>: The presence of a dominant bank shareholder has a positive impact on firm performance.*

As suggested by existing literature about the different motivations between bank and non-bank financial institutions, this study separately proposes the hypotheses for non-bank financial institutions based on the alignment of interests as follow:

*H<sub>a11</sub>: Non-bank financial institution block ownership has a positive impact on firm performance.*

*H<sub>a12</sub>: The presence of a dominant non-bank financial institution shareholder has a positive impact on firm performance.*



### **4.2.3 The Impact of Managerial Ownership on Firm Performance**

As discussed previously in Chapter 2, Section 2.4.2, Berle and Mean (1932) argue that the agency problem in firms owned by diversified investors arises because of the separation of ownership and control. In response, Jensen and Meckling (1976) propose the use of managerial ownership in order to align the interests of managers to those of firms, since an increase in the proportion of shares owned by managers should motivate managers to work for the interests of the firm. Therefore, an alignment of interest hypothesis predicts a positive relationship between managerial ownership and firm performance.

However, high managerial ownership not only increases managers' incentives but also increases their power of control. As a result, managers can become entrenched at higher levels of ownership because they can protect themselves from market disciplines such as the market for corporate control or the managerial labour market (for example, see Denis and McConnell, 2003). Therefore, the entrenchment hypothesis predicts a negative relationship between managerial ownership and firm performance at high levels of ownership.

Some research argues that the level of managerial ownership is endogenously determined by other corporate governance mechanisms, such as the labour market (Fama and Jensen, 1983) or competitive product and capital markets (Demsetz, 1983). Hence each firm's ownership structure is expected to be at its optimal level, reflecting a mix of corporate governance mechanisms (Demsetz, 1983) and there should be no relationship between ownership and firm performance (Demsetz, 1983; Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001). Nevertheless, this notion is based on the assumption of perfect market efficiency, which might not always exist in reality. In fact, the market may suffer from limited transparency and asymmetric information. In addition, it is likely that the institutional environments of markets can change over time. Therefore, firms cannot always reach an optimum level of ownership in practice (see, for example McConnell et al., 2008).

Initially, studies into the potential impact of managerial ownership on firm performance were focused on the US. Later research expanded to European and Asian countries yet consistently found mixed evidence. This may have been caused by differences in the quality of ownership data, performance measurements (accounting or market based), sample sizes, methodologies and institutional environments such as corporate governance systems and regulations.

#### ***4.2.3.1 Prior Research on US Firms***

In the US, managerial ownership is used as a mechanism to increase managers' incentives (for example, through stock compensations), as suggested by Jensen and Meckling (1976). Therefore, earlier research from the US focused its attention on the potential impact of managerial ownership on firm performance.

Research normally measures firm performance based on either accounting performance (for example, return on assets) or market performance (Tobin's q or Quasi Tobin's q). Evidence from the studies supports the notions of either the alignment or the entrenchment effects of managerial ownership on firm performance. In fact, much research found a non-linear relationship between managerial ownership and firm performance, with different turning points. A few researchers also found evidence in support of the notion of market efficiency, showing no relationship between managerial ownership and firm performance.

For example, using large industrial firms in the Fortune 500 as a sample, Morck et al. (1988) applied a piecewise, linear regression and report evidence for an alignment effect with 0% to 5% managerial ownership. They find that when managerial ownership exceeds 5%, the effect becomes negative, indicating the presence of an entrenchment effect. The effect becomes positive again when the ownership exceeds 25%.

McConnell and Servaes (1990) extend the scope of the sample used in Morck et al. (1988) by including smaller firms and using a variety of sources of ownership data. They used a quadratic form regression to show that the alignment effect is present until managerial ownership reaches the turning point at 37.6% and remains in place up to

60.9%. However, by replicating the methodology of Morck et al. (1988), they found a significant positive relationship only when managerial ownership is between 5% and 25%. Koles (1995) suggests that the different results in these two studies may be caused by the difference in sample size rather than in the source of the data.

Cui and Mak (2002) found a “W-shape relationship”<sup>11</sup> between managerial ownership and Tobin’s q. However, their sample was limited to firms in high research and development (R&D) industries, and their study may imply that the different pattern of the relationship is due to industry effects.

The relationship between ownership structure and firm performance may suffer from reverse causality and endogeneity problems (for example, see Jensen and Warner, 1988). Hence ownership may be increased as firm performance increases, but not vice versa. For example, managers are likely to buy stocks or exercise stock options in firms with high performance (Hermalin and Weisbach, 1991; Jensen and Warner, 1988; McConnell and Servaes, 1990; Morck et al. 1988). In addition, ownership may also be endogenous, determined by observed or unobserved firm heterogeneity and resulting in biased OLS estimators.<sup>12</sup>

Therefore, recent studies have attempted to test for the existence of these problems by applying different methodologies alongside OLS. However, results have still been inconclusive. Among others, Hermalin and Weisbach (1991) used panel data and instrument variables (IV-lagged ownership variables) to control for endogeneity problems. They report that managerial ownership (by CEO and CEO tenure) was associated with high market performance (Tobin’s q) at the 1% turning point. Their results from OLS and IV are consistent.

Cho (1998) used OLS and simultaneous equations (two-stage least squares, 2SLS, and three-stage least squares, 3SLS) to examine the links between managerial ownership,

<sup>11</sup> The W-shape relationship in their study indicates a negative relationship between managerial ownership from 0% to 10%, a positive relationship from 10% to 30%, a negative relationship from 30% to 50% and a positive relationship from 50% upwards.

<sup>12</sup> Among others, Cho, 1998; Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001; Hermalin and Weisbach, 1991; Himmelberg et al., 1999; Seifert et al., 2005.

investment and firm performance. However, he found inconsistent results from different methodologies. While results from the OLS showed a non-linear relationship with different turning points compared to those found in previous studies (such as Morck et al. 1988), the results from simultaneous equations suggested that managerial ownership is determined by market performance (Tobin's  $q$ ), but not vice versa. His study suggests that the markets to equity and industry are other factors that could determine managerial ownership.

Cui and Mark (2002) used OLS and 2SLS to investigate the relationship between managerial ownership and market performance (Tobin's  $q$ ). They found a non-linear relationship and consistent results from both methodologies. Seifert et al. (2005) applied both OLS and 2SLS to regress firm performance (Tobin's  $q$ ) on managerial ownership. However, the results from the two methods are inconsistent. Regarding OLS, Seifert et al. (2005) found the entrenchment effect at lower levels of managerial ownership (less than 10%), but no significant relationship was found with regard to higher levels of managerial ownership. Nevertheless, when 2SLS was applied, only the entrenchment effect was found.

By contrast, Demsetz and Lehn (1985) reveal that ownership structure is endogenously determined by the firm-specific characteristics (firm size and volatility of profit rate) that are chosen to maximise firm profitability. Using OLS regression, they did not find a significant relationship between concentrated ownership and firm performance, measured by accounting profit rate. Ownership data used in their study included the percentage of shares owned by the top 5 and 20 shareholders, but they did not classify the types of managerial ownership. Their findings are consistent with the later study by Demsetz and Villalonga (2001).

Himmelberg et al. (1999: 357) argue that managerial ownership may be determined by factors of unobserved firm heterogeneity such as intangible assets, effective monitoring processes and the degree of monopoly in business. Hence the exclusion of these factors from a regression of firm performance on managerial ownership may lead to false

results. They used unbalanced panel data with a fixed-effects model to control for unobserved firm heterogeneity. They found no significant relationship between managerial ownership and firm performance (Tobin's  $q$ ).

Zhou (2001), however, maintains that fixed-effects models have their own limitations if there is little cross-sectional variation of levels of share ownership within individual firms. In this case, it is difficult for the model to detect any significant relationship between managerial ownership and firm performance, even if one does exist. Zhou (2001) shows that changes in year-to-year managerial ownership within sampled firms tended to be slow, while cross-sectional variation of managerial ownership across sampled firms differed. Therefore, it is not surprising that the results of using fixed-effects approaches are insignificant in the study of Himmelberg et al. (1999), because the fixed-effects approach removes all possible within variations.

According to McConnell et al. (2008), the comments of Zhou (2001) do not mean that the fixed effects model has no merit. They believe that the model does control for the endogeneity problems arising from unobserved, firm-specific heterogeneity. McConnell et al. (2008: 93) assert, "[t]he fixed effects model accomplishes this by, in essence, considering changes in ownership and changes in value rather than levels. When changes are considered, any firm fixed effect cancels and, therefore, any relation that remains cannot be due to endogeneity that arises from such an effect."

They investigated the impact of changes in managerial ownership on a firm's market values six days after the announcement of insider purchasing. They found that a change in managerial ownership affected firm performance in a non-linear form (a curvilinear relationship). In particular, changes in the firm's market value first increased and then decreased as the managerial ownership increased. Their findings also oppose the notion of market efficiency. McConnell et al. (2008: 105) comment,

“[M]anagers, the board and other shareholders do not jointly maximise the value of the firm with respect to ownership structure. In some cases, insiders own “too much” stock and in other cases, they do not own

enough. In those cases where managers own too much stock, they may be doing so to enhance their entrenched positions.”

This suggests that firms need to adjust their share distribution to managers in order to respond to changes in their specific circumstances over time.

Later, Fahlenbrach and Stulz (2009) applied the fixed effects model and found that an increase in managerial ownership led to an increase in Tobin’s q after being controlled for previous stock returns. They also found no evidence that managerial ownership was detrimental to firm performance.

#### ***4.2.3.2 Prior Research outside the US***

Research done outside the US also reveals mixed results regarding the alignment and entrenchment effects of managerial ownership on firm performance and confirms the presence of a non-linear relationship, with different turning points and patterns, revealing that the degree of incentive effects may be influenced by institutional environments. Additionally, as in the research from the US, later international studies have taken endogeneity into consideration.

For example, in research based in the UK, Short and Keasey (1999) applied a cubic form regression and confirmed that the relationship between managerial ownership and firm performance is non-linear. They used accounting and market performance measurements and found a pattern of alignment and entrenchment effects that was similar to that found by Morck et al. (1988). However, they report the presence of an entrenchment effect at higher levels of managerial ownership: between 15.58% and 41.84% from accounting measurements, and between 12.99% and 41.99% from market value measurements. Compared to the US, their findings imply that it is more difficult for managers in the UK to abuse other shareholders, because of the more active role of institutional investors and the market for corporate control in the UK capital market. In fact, it is more difficult for takeover defences by managers be successful in the UK than it is in the US. In addition, the allowance for CEO duality may create opportunities for management to become more easily entrenched in the US than in the UK, where CEO duality is rare.

Davies et al. (2005) argue that external market controls (hostile takeovers) may not work efficiently at higher levels of managerial ownership, as reported in previous studies (both in and outside the US). Therefore, an entrenchment effect may occur again, when the power of management is stronger than the control from the external market (when management stakes are higher than 50%). Accordingly, they applied a “quintic structure” as a functional model and found entrenchment effects at more than 50% managerial ownership in the UK. They also found the alignment effect again at higher levels of managerial ownership. After controlling for endogeneity, they confirmed that firm performance is partially determined by managerial ownership and vice versa. It is worth noting that their findings reveal that the choice of model used to explain the structure of a relationship between managerial ownership and firm performance has some influence on the results.

In Spain, Lopez-Iturriaga and Rodriguez-Sanz (2001) found a non-linear relationship between managerial ownership and firm performance, but not vice versa, using one-equation models (OLS) with two break points (at 20% and 50%). The alignment effect was found when managerial ownership was between 0% and 20%, and again at more than 50%. Entrenchment effects appeared between 20% and 50% managerial ownership. However, when simultaneous equations were applied, managerial ownership seemed to be determined both by firm performance and by investment.

In New Zealand, Bhabra (2007) applied cubic form regressions and found a relationship between managerial ownership and firm performance. However, the entrenchment range was higher and longer than that found in the US research (between 14% and 40%). The result was still robust after controlling for endogeneity. The difference could be explained by the smaller size of the capital market and the potential for greater transparency in New Zealand, which seem to be obstacles to management entrenchment. However, the difficulty in a success of takeover defences and the weak role of institutional investors in New Zealand may have caused an entrenchment effect to occur for longer than it does in the US.

Similar research has been carried out in Asian countries. Hu and Zhou (2008) applied a quadratic form regression to a sample that was limited to non-listed companies in China and found that the relationship was non-linear, with a negative turning point above 50% managerial ownership. They also compared the accounting performance (ROA) of firms with managerial ownership to that of firms without managerial ownership and found that the former outperformed the latter.

In Japan, Chen et al. (2003) found a “U-shaped relationship” between managerial ownership and firm performance; the entrenchment effect was found at low levels and the alignment effect at high levels of managerial ownership. After controlling for endogeneity, however, they found an alignment effect that appeared as a linear relationship between the two variables.

In summary, the evidence from existing literature reveals mixed results either supports alignment or entrenchment of managerial ownership and suggests that the relationship might not be linear in form. In Thailand, Yammeesri (2003) reports the positive and significant relationship between managerial ownership (all directors) and both market and accounting performance only before the financial crisis. However, he found no significant difference in both firm performances between firms with the presence of managerial ownership and firms without the presence of managerial ownership before and after the financial crisis.

Additionally, it is quite common characteristics that listed firms have dominant family shareholders who also take a role of management. The combination of ownership and control may help to align interests of manager-owners to firms. However, evidence from the previous literature in Thailand reports mixed results. For example, Wiwattanakantang (2001) found that dominant shareholders who involve in management become entrenched when they hold 25% to 50% of share ownership in term of market performance. Nevertheless, their interests seem to more align to other shareholders when they hold more than 75% of share ownership. Finally, by replicating a cubic-form regression, as suggested by Short and Keasey (1999), Yammeesri (2003)



could not find significant evidence of a non-linear relationship between managerial ownership and firm performance before and after the financial crisis.

In light of the findings of existing literature with the mixed results, this study therefore proposes the hypotheses based on alignment of interests, stated as follows:

*H<sub>a13</sub>: Managerial ownership has a positive impact on firm performance.*

#### **4.2.4 The Corporate Governance Reforms and their Implications**

Corporate governance reforms are often triggered by high-profile corporate scandals in individual companies (such as ENRON) or financial crises (such as the Asian financial crisis or the global credit crunch). As discussed in Chapter 2, the key objective of corporate governance systems is to reduce the conflict of interests between managers and shareholders or between dominant shareholders and minority shareholders. The strengthening of the systems is ideally expected to reduce agency costs and, in turn, to enhance firm performance.

However, there is no guarantee that corporate governance reforms will achieve their proposed aims without creating additional problems<sup>13</sup> or that they will not cause the cost of compliance to outweigh the reduction in residual losses.<sup>14</sup> Research into the impact of corporate governance reforms on corporate performance is important to an understanding of their contribution to firms and capital markets in practice, and to the future development of global corporate governance systems, but evidence from existing literature is still limited and contradictory.

For example, the UK corporate scandals (ENRON and WorldCom) in 2002 led to the introduction of the Sarbanes-Oxley Act of 2002<sup>15</sup> (SOX, 2002), which mainly focused on the independence of board directors and auditors. Nevertheless, subsequent evidence

<sup>13</sup> For instance, the introduction of remuneration committees and consultants in the US and the UK appears to have contributed to a ratcheting up of the process of executive remuneration.

<sup>14</sup> Such as the Sarbanes-Oxley Act, which imposed large compliance costs, on smaller firms in particular, and failed to prevent the use of REPO 105 provisions by Lehman Brothers and other financial institutions in the run-up to and during the 2007/08 credit crunch.

<sup>15</sup> For example, a requirement that an audit committee must be entirely composed of independent directors, or a prohibition of non-auditor services.

has shown that attempts to improve individual corporate governance mechanisms (for example, through director independence) following the SOX, 2002, may not have successfully contributed to firm performance. For example, Bolton (2012) examined whether firms benefitted, in terms of performance, from complying with the requirements for audit committee independence but found no significant improvements.

Focusing on evidence from Russia Kuznecovs and Pal (2012) examined whether corporate governance reforms, in term of disclosure and transparency, enhanced firm performance in Russian listed firms. They found that the corporate governance index (T&D index) was positively associated with Tobin's  $q$  for the full sample of Russian listed firms. However, focusing on industry sectors, they found that the significant positive results were absent from firms in the utilities sectors that were not oil and gas producers. They suggest that, while better corporate governance improves firms' transparency, it could also force them to pay higher taxes. They therefore argue that the success of corporate governance reforms in improving firm performance in Russia depends on how the system solves the conflict of interests between the central government and dominant shareholders. Overall, they found no evidence of a link between Russian corporate governance reforms and improvements in firm performance, as measured by Tobin's  $q$  and earnings before interest and taxes as a share of total assets.

Gao et al. (2008) investigated the effectiveness of corporate governance reforms in 2005. They also focused on whether changes in ownership by the state and the largest shareholders enhanced firm performance. Based on their findings, the reforms appear to have led to a decrease in state ownership and the ownership of the largest shareholders in Chinese listed firms. They also found that change in state ownership had a positive effect on firm performance (change in the ROE) after reforms.

As discussed in Chapter 3, the need for corporate governance reforms in Thailand was primarily driven by the 1997 financial crisis. The reforms aimed to regain investors' confidence and to promote the creditability of the Thai capital market, making it more

competitive and attractive to international investors. The reforms adopted the international corporate governance framework (OECD, 2004), which is mostly based on dispersed ownership model and includes mechanisms such as director independence. However, while ownership is more widely held in most US or UK firms, it is highly concentrated in most Thai firms, and it has still been a debate whether the adoption of international corporate governance mechanisms actually works well in such a different institutional environment (Enriques and Volpin, 2007; Tsamenyi and Uddin, 2008).

If the corporate governance mechanisms, imposed since 1999, had worked as well as they were intended to, they would have prevented large shareholders/dominant shareholders from consuming private benefits and either the positive or negative impact of ownership concentration and the presence of dominant shareholder ownership on firm performance should have improved. Therefore, this study proposes the hypotheses as follows:

*H<sub>a14</sub>: The impact of ownership concentration on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a15</sub>: The impact of the presence of a dominant shareholder on firm performance differs in pre-reform and post-reform periods in the sense that the presence of a dominant shareholder in post-reform period will be more positively related to firm performance.*

*H<sub>a16</sub>: The impact of family block ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a17</sub>: The impact of government block ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a18</sub>: The impact of foreign company block ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a19</sub>: The impact of bank block ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a20</sub>: The impact of non-bank financial institutions block ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively effect to firm performance.*

*H<sub>a21</sub>: The impact of the presence of a dominant family shareholder on firm performance differs in pre-reform and post-reform periods in the sense that the presence of this type of dominant shareholder in post-reform period will be more positively related to firm performance.*

*H<sub>a22</sub>: The impact of the presence of a dominant foreign company shareholder on firm performance differs in pre-reform and post-reform periods in the sense that the presence of this type of dominant shareholder in post-reform period will be more positively related to firm performance.*

*H<sub>a23</sub>: The impact of the presence of a dominant non-bank financial institution shareholder on firm performance differs in pre-reform and post-reform periods in the sense that the presence of this type of dominant shareholder in post-reform period will be more positively related to firm performance.*

*H<sub>a24</sub>: The impact of managerial ownership on firm performance differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more positively related to firm performance.*

### 4.3 Research Methodology

Some theoretical and methodological issues have been addressed by research on the relationship between ownership structure and firm performance. They mainly involve endogeneity of ownership (for examples, see Jensen and Warner, 1988; Morck et al., 1988; McConnell and Servaes, 1990). Two possible sources of the endogeneity problem of ownership have been addressed in the research. One is caused by reverse causality<sup>16</sup> and another arises from omitted variables.

Regarding reverse causality, academics argue that managers are willing to increase their fractions of shares in the firms they manage (to buy shares in the capital market or to exercise their share options) if the firm has good performance (Morck et al., 1988; McConnell and Servaes, 1990; Hermalin and Weisbach, 1991). Ownership may therefore be determined by firm performance, but not vice versa.

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<sup>16</sup> Morck et al. (1988) and McConnell and Servaes (1990) also raise a concern about the causality problem. However, their study did not test or detect this problem.

The problem of omitted variables arises when a researcher cannot add additional control variables to a regression model because data are unavailable (Wooldridge, 2010). If the omitted variables are correlated with explanatory variables (such as ownership), then the explanatory variables would be endogenous. Himmelberg et al. (1999) argue that managerial ownership is an endogenous variable, determined by observed or unobserved firm heterogeneity (see also Demsetz and Lehn, 1985).

If an explanatory variable is somehow correlated with observed or unobserved firm heterogeneity, an ordinary least square estimation (OLS) will be biased and inconsistent (Wooldridge, 2010). Himmelberg et al. (1999: 257) argue that when regressing firm performance on ownership variables, research using cross-sectional data is likely to suffer from “unobserved heterogeneity” that has been omitted from the model. A problem may arise if unobserved determinants of firm performance also determine ownership and ownership may therefore be a false determinant of firm performance. For example, unobserved heterogeneity may be related to a firms’ monitoring technology, the degree of its market power or the level of intangible assets such as the talents of managers.

Himmelberg et al. (1999) suggest that, under optimal contracts, the need for managerial ownership, in order to align the interests of managers to those of shareholders, is reduced if a firm’s owners can access superior monitoring technology. The superior monitoring will enhance firm performance because it helps to reduce managers’ opportunities to abuse the firms’ assets. However, if the quality of this monitoring is not included in the model specification, managerial ownership may be falsely related to firm performance that actually results from a negative relationship between monitoring technology and managerial ownership. If this issue is ignored it may cause OLS estimators to be biased and inconsistent.

One solution that mitigates for the endogeneity problem is to find an “instrument variable”, which is not correlated with any other observed or unobserved firm heterogeneity, as a proxy for ownership and to use IV methods such as 2SLS regressions

(for examples, see Hermalin and Weisbach, 1991; Himmelberg et al., 1999; Wooldridge, 2010). When potential observed heterogeneity, that could determine firm performance, is already added into the specification model, it is difficult to find an instrument variable that is correlated to ownership but not correlated to firm performance in practice. As a result, the use of instrument variables provides unclear results and continues to be debated among researchers.

Using panel data,<sup>17</sup> in which the same cross-sectional units are collected at different points in time, provides another solution for this problem (Himmelberg et al., 1999; Wooldridge, 2010). Where there is an endogeneity problem of ownership, Himmelberg et al. (1999) suggest that using panel data allows research to apply a fixed effects estimator by assuming that any unobserved heterogeneity<sup>18</sup> is constant over time. In particular, unobserved heterogeneity includes unobserved firm characteristics such as the use of monitoring technology or the level of managers' talent.

A fixed-effects model arises from “a basic unobserved effects model” (Greene, 2008: 193; Wooldridge, 2010: 285),

$$y_{it} = x_{it}\beta + c_i + u_{it}, \quad t = 1, 2, \dots, T$$

Where subscripts  $i$  and  $t$  denote the individual and the time period, respectively,  $x_{it}$  are observable variables,  $u_{it}$  denotes “idiosyncratic errors” and  $c_i$  are unobserved effects, which are assumed to be arbitrarily correlated with  $x_{it}$ .

Following Greene (2008: 193 – 194), the general form of  $c_i$  is

$$E[c_i | X_i] = h(X_i)$$

Given that the conditional mean is the same in every period, one can write the model as

$$y_{it} = x_{it}\beta + h(X_i) + u_{it} + [c_i - h(X_i)]$$

<sup>17</sup> In general, panel data allows one “to obtain consistent estimators in a presence of omitted variables” under certain assumptions (Wooldridge, 2010: 281).

<sup>18</sup> According to Wooldridge (2010), the unobserved heterogeneity can be called in many name such as an unobserved time-invariant variable, unobserved component and latent variable.

$$y_{it} = x_{it}\beta + \alpha_i + u_{it} + [c_i - h(X_i)]$$

By assuming that  $[c_i - h(X_i)]$  is uncorrelated with  $X_i$ , one can absorb it into the idiosyncratic errors and write the model as,

$$y_{it} = x_{it}\beta + \alpha_i + u_{it}$$

Note that the fixed-effects model assumes a strict exogeneity of the explanatory variables, conditional on the unobserved effect ( $c_i$ ) (Greene, 2008: 194; Wooldridge, 2010: 301). This suggests

$$E(u_{it} | x_{it}, c_i) = 0, t = 1, 2, \dots, T \text{ and } \text{Var}[c_i | X_i] = 0.$$

This method therefore partly mitigates for the endogeneity problem regarding omitted variables. However, it is possible for explanatory variables to be correlated with unobserved heterogeneity that varies over time. In this case, either OLS or fixed-effect estimators would be biased. In addition, one cannot include observable “time-constant variables”, such as gender or industry,<sup>19</sup> in  $x_{it}$  because it is impossible to distinguish between observable time-constant variables in  $x_{it}$  and unobservable time-constant variables in  $c_i$  (Greene, 2008: 194; Wooldridge, 2010: 301).

This study uses unbalanced panel data and applies a two-way fixed effects model (firm-year) to investigate the impact of ownership structure on firm performance. The general models take the forms below:

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \gamma_{1-13} \text{Control Variables}_{it} \\ & + \alpha_{i1} \text{Firm fixed effect} + \alpha_{i2} \text{Year fixed effect} + \varepsilon_{it} \end{aligned} \quad (4.1)$$

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 D\_Dominant_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect} \\ & + \alpha_{i2} \text{Year fixed effect} + \varepsilon_{it} \end{aligned} \quad (4.2)$$

<sup>19</sup> It is possible to include industry in the fixed-effect model if it appears to change over time for at least some firms (Wooldridge, 2010: 301).

$$\begin{aligned}
FM_{it} = & \beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} + \beta_3 \text{Domestic Own}_{it}^{20} \\
& + \beta_4 \text{Foreign Own}_{it} + \beta_4 \text{Non-Bank Financial Institution Own}_{it} \\
& + \beta_5 \text{Bank}_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{it} \text{Firm fixed effect} \\
& + \alpha_{it} \text{Year fixed effect} + \varepsilon_{it}
\end{aligned} \tag{4.3}$$

$$\begin{aligned}
FM_{it} = & \beta_0 + \beta_1 D\_ \text{Family}_{it} + \beta_2 D\_ \text{Government}_{it} + \beta_3 D\_ \text{Domestic}_{it} \\
& + \beta_4 D\_ \text{Foreign}_{it} + \beta_4 D\_ \text{Non-Bank Financial Institution}_{it} \\
& + \beta_5 D\_ \text{Bank}_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{it} \text{Firm fixed effect} \\
& + \alpha_{it} \text{Year fixed effect} + \varepsilon_{it}
\end{aligned} \tag{4.4}$$

$$\begin{aligned}
FM_{it} = & \beta_0 + \beta_1 \text{Manager Own}_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{it} \text{Firm fixed effect} \\
& + \alpha_{it} \text{Year fixed effect} + \varepsilon_{it}
\end{aligned} \tag{4.5}$$

Where FM stands for firm performance, measured by accounting and market value approaches, subscripts  $i$  and  $t$  denote firms and years. Own is the percentage of shares owned by the largest shareholders, by their types. D\_ indicates a dummy variable, which is equal to 1 if there is a presence of dominant shareholders, by their types. The definitions of all variables are described in Table 4.1. This study also used a cluster-robust standard error estimator<sup>21</sup> so that the fixed-effects (FE) standard error is more valid and robust in the presence of any heteroskedasticity and serial correlation in error terms ( $\varepsilon_{it}$ ).

#### 4.3.1 Test for Equality between Coefficients before and after the Corporate Governance Reforms

This study separates the full sample into pre-period (1994 – 1998) and post-period of the corporate governance reform (2000 – 2007) and run each specification models<sup>22</sup> for each sample (Model 4.1 to 4.5) in order to examine the impact of ownership structure on firm

<sup>20</sup> This study also added domestic company ownership as a variable, in order to control for (1) any firms that are owned by dominant shareholders but do not publicly disclose it or (2) cases in which data is unavailable to trace the ultimate shareholder.

<sup>21</sup> Stock and Watson (2008:155) assert that a heteroskedasticity-robust variance matrix estimator used for fixed effect panel data is inconsistent if the number of time periods (T) is fixed but the number of firms (n) increases to infinity. In particular, they suggest that if  $T > 3$  and the error term is believed to be “unconditionally serially uncorrelated”, the heteroskedasticity-robust variance matrix estimator is more efficient than the cluster-robust standard error estimator is. However, if one cannot place a restriction on the structure of the error term, then the cluster-robust standard error estimator should be used.

<sup>22</sup> The year-fixed effects were excluded from pre and post regressions for each specification model to avoid a redundancy to the time-indicator (*Post*).



performance before and after the reform. In order to reduce any effects from the transitory period, the year 1999 was excluded because the first governance mechanism, audit committees, was introduced in this year.

In order to compare the pre and post impacts, this study uses a dummy variable approach suggested by Gujarati (1970a, 1970b) to test equality between sets of coefficients in the pre-reform and post-reform regressions. Under this approach, observations from pre-period and post-period samples for each model (Model 4.1 to 4.5) are pooled together and are estimated in form of single regressions as following:

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \gamma_{1-13} \text{Control Variables}_{it} \\ & + \alpha_{i1} \text{Firm fixed effect} + \text{Post} \times [\beta_0 + \beta_1 \text{Concentrated Own}_{it} \\ & + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect}] + \varepsilon_{it} \end{aligned} \quad (4.6)$$

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 D\_Dominant_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect} \\ & + \text{Post} \times [\beta_0 + \beta_1 D\_Dominant_{it} + \gamma_{1-13} \text{Control Variables}_{it} \\ & + \alpha_{i1} \text{Firm fixed effect}] + \varepsilon_{it} \end{aligned} \quad (4.7)$$

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} + \beta_3 \text{Domestic Own}_{it} \\ & + \beta_4 \text{Foreign Own}_{it} + \beta_4 \text{Non-Bank Financial Institution Own}_{it} \\ & + \beta_5 \text{Bank}_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect} \\ & + \text{Post} \times [\beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} \\ & + \beta_3 \text{Domestic Own}_{it} + \beta_4 \text{Foreign Own}_{it} \\ & + \beta_4 \text{Non-Bank Financial Institution Own}_{it} + \beta_5 \text{Bank}_{it} \\ & + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect}] + \varepsilon_{it} \end{aligned} \quad (4.8)$$

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 D\_Family_{it} + \beta_2 D\_Government_{it} + \beta_3 D\_Domestic_{it} \\ & + \beta_4 D\_Foreign_{it} + \beta_4 D\_Non-Bank Financial Institution_{it} \\ & + \beta_5 D\_Bank_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect} \\ & + \text{Post} \times [\beta_0 + \beta_1 D\_Family_{it} + \beta_2 D\_Government_{it} + \beta_3 D\_Domestic_{it} \\ & + \beta_4 D\_Foreign_{it} + \beta_4 D\_Non-Bank Financial Institution_{it} \\ & + \beta_5 D\_Bank_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect}] + \varepsilon_{it} \end{aligned} \quad (4.9)$$

$$\begin{aligned} FM_{it} = & \beta_0 + \beta_1 \text{Manager Own}_{it} + \gamma_{1-13} \text{Control Variables}_{it} + \alpha_{i1} \text{Firm fixed effect} \\ & + \text{Post} \times [\beta_0 + \beta_1 \text{Manager Own}_{it} + \gamma_{1-13} \text{Control Variables}_{it} \\ & + \alpha_{i1} \text{Firm fixed effect}] + \varepsilon_{it} \end{aligned} \quad (4.10)$$

Where *Post* is an indicator variable, which is equal to 1 for periods after the reform (2000 - 2007) and is equal to 0 for periods before the reform (1994 - 1998).

Under an assumption that all variables (i.e. ownership and control variables) are changed over time, *Post* is interacted with each variable in each specification model (a “*multiplicative form*”,  $Post \times \text{variable}$ ). The coefficient of each variable (e.g.  $\beta_{pre}$ ) is the coefficient before the corporate governance reform. The coefficient of ( $Post \times \text{variable}$ ) indicates an *incremental effect* from the post-reform period. Therefore, the coefficient of each variable after the reform ( $\beta_{post}$ ) is equal to the sum of each coefficient and its incremental effect (i.e.  $\beta_{pre} + \text{coefficient of } (Post \times \text{variable})$ ).

The significantly *positive* sign of the coefficient of ( $Post \times \text{variable}$ ) indicates the positive incremental effect in post-reform period. In other words, the ownership variable has more positive (less negative) impact on firm performance in the *post*-reform period than in the *pre*-reform period.

This could imply that the ownership structure works more efficient either in aligning the largest shareholders’ interests to other shareholders’ interests or limiting their opportunistic behaviour in firms in the post-reform period. In the context of the Thai capital market, this could imply some degree of success of the corporate governance reform in controlling the agency problem arisen from the conflict of interests between large (dominant) shareholders and other shareholders in the listed firms.

On the other hand, the significantly *negative* sign of coefficient of ( $Post \times \text{variable}$ ) indicates the negative incremental effect in post-reform period. In other words, the ownership variable has more negative (less positive) impact on firm performance in the *post*-reform period than in the *pre*-reform period.

This could imply the less efficiency of the ownership structure either in aligning the largest shareholders’ interests to other shareholders’ interests or limiting their opportunistic behaviour in firms in the post-reform period. In the context of the Thai capital market, this could indicate that the reforms might possibly reduce the motivation

of the largest shareholders (dominant shareholders) in participating in firms' monitoring or increase their motivation to exploit other shareholders.

The Wald test<sup>23</sup> is also performed in order to test whether the coefficients of variables in the post-reform period ( $\beta_{Post} = \beta_{Pre} + \text{incremental effect}$ ) significantly differ from those in the pre-reform period ( $\beta_{Pre}$ ). Previous research that uses the Wald test to test the equality of two variables in a single regression is such as Aggarwal et al., (2011). In this study, the Wald tests are computed by using "test" command in Stata. The null hypothesis is that  $\beta_{post} = \beta_{Pre}$ , which is equivalent to  $\beta_{Post} - \beta_{Pre} = 0$ . The rejection of the null hypothesis indicates that  $\beta_{post}$  is significantly different from  $\beta_{Pre}$ .

## 4.4 Definitions of Variables

### 4.4.1 Firm Performance

This study used both an accounting and a market-value approach to measure firm performance, because both of them have their strengths and weaknesses. Furthermore, a comparison of the results from the two measurements may contribute to an understanding of whether ownership structure is beneficial to firm performance or investor perceptions in Thailand.

#### 4.4.1.1 Market Performance

Regarding the market value approach, Tobin's q (q) is a popular proxy in research<sup>24</sup> to measure market performance. The q ratio is traditionally the ratio of the market value of the firm to the replacement value of assets (Tobin, 1978). In the short run, the q ratio reflects the value of intangible assets such as goodwill, management talents, a firms'

<sup>23</sup> According to Judge et al. (1985: 20–28), the Wald test is computed by using the estimated coefficient vector (**b**) and the estimate-variance-covariance matrix (**V**) of the estimated coefficients from the unconstrained model.

Given that  $Rb = R\beta + v_I$  and  $R\beta = r$ , where  $R$  is a  $(1 \times K)$  row vector,  $v_I \sim N(0, \sigma^2 R(X'X)^{-1}R')$ , the null hypothesis is  $Rb = r$ , which denotes the q linear hypothesis to be tested, The Wald statistics (W) is  $W = (Rb - r)'(RVR')^{-1}(Rb - r)$  and the F statistic is computed as  $F = 1/q \times W$ .

<sup>24</sup> For examples, see Cho, 1998; Fahlenbrach and Stulz, 2009; Himmelberg et al., 1999; Holderness and Sheehan, 1988; Lins, 2003; McConnell and Servaes, 1990; Hermalin and Weisbach, 1991; Mehran, 1995; Morck et al, 1988; Seifert et al., 2005; Villalonga and Amit, 2006; and Wiwattanakantang, 2001.

growth rate, market power, and investor expectations (Tobin, 1978; Perfect and Wiles, 1994). However, because the q ratio is likely to be affected by investor expectations, it is likely to overlook what has been actually achieved by managers (Demsetz and Villalonga, 2001). In addition, finding market data in order to calculate an accurate q ratio is sometimes complicated and time consuming in practice (Chung and Pruitt, 1994; Perfect and Wiles, 1994). In addition, the market data (such as the replacement cost of assets) is either not available or accurate in some countries (Chung and Pruitt, 1994; Perfect and Wiles, 1994; Wiwattanakantang, 2001).

In order to solve this problem, much of the research<sup>25</sup> normally simplifies the q ratio by using some information extracted from financial statements (balance sheets). In particular, research is likely to use the book value of total assets, rather than replacement costs, as a denominator of the q ratio. Although, the simplified q is likely to differ from the traditional q ratio (with market data), the variation between the two is acceptable when their accuracy and availability are compared (Chung and Pruitt, 1994). Chung and Pruitt (1994) assert that the simplified q, applied accounting information, theoretically provides an accurate q, which can explain at least 96.6% of the variability of the traditional q.

Following the literature, this study used a simplified Tobin's q (Quasi-q) as a proxy for firm performance based on the market value. The Quasi-q ratio is a sum of the market value of equity and the book value of total liabilities divided by the book value of total assets. The book value of total assets is used instead of the replacement cost of assets because it is difficult to access the appropriate replacement costs for many of listed firms in Thailand.

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<sup>25</sup> A simplified Tobin's q is also used in corporate governance research such as Agrawal and Knoeber, 1996; Adams and Mehran, 2011; Bhagat and Black, 2002; Caprio et al., 2007; De Andres and Vallelado, 2008; Hermalin and Weisbach, 1991; Himmelberg et al., 1999; McConnell and Servaes, 1990; Wiwattanakantang, 2001; Yeh et al., 2003; and Yermack, 1996.

#### **4.4.1.2 Accounting Performance**

Demsetz and Villalonga (2001) posit that accounting performance, rather than market performance, can be the more appropriate proxy for firm performance, because the results of performance reflect management actions in the current period and do not depend much on investor expectations. The information used to calculate accounting performance might also be more reliable, as it is normally governed by accounting standards. However, there is a chance that some managers will distort accounting data, leading to an overstatement of firm performance.

As discussed in Chapter 2, a dominant shareholder can extract corporate assets in many ways, including excessively compensating management, selling assets among companies in the group, claiming executive perks or investing inefficiently. The exploitation would affect either the statement of financial position or the statement of profit or loss. Therefore, it would be more meaningful to measure accounting performance in a way that incorporates the exploitation from the two statements (Wiwattanakantang, 2001). Hence research commonly uses the return on assets ratio (ROA) as a proxy for accounting performance, because the ratio reflects the efficiency of the ways in which a firms' assets are allocated and managed.

This study used ROA as the main proxy for firm performance based on accounting performance. The ROA was calculated as earnings before interests and taxes, divided by the book value of total assets. All accounting data came from consolidated financial statements for the year ended 31 December. Alternative measurements of accounting performance (industry-adjusted performance<sup>26</sup> and sales-to-assets ratio) were applied in the sensitivity test in Section 4.7.

#### **4.4.2 Ownership Variables**

This study measured ownership concentration by the percentage of shares owned directly or indirectly by the firm's largest shareholders.

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<sup>26</sup> Industry-adjusted performance is the difference between individual firm performance and industry median firm performance (for example, see Saito, 2008).

Ownership concentration by shareholder type was measured as the percentage of shares owned directly or indirectly by the largest shareholders within each type (family, government, foreign company investor, domestic company, bank or non-bank financial institutional investor). This study use ownership of the largest shareholders and did not aggregate the share ownership by types or across types because it is unlikely that shareholders within each type or across types would cooperate in their control efforts with each other. This could be caused by the fact that they normally are competitors in other markets (for example banks and non-bank financial investors). They also might have different cultural backgrounds (for example among different foreign company investors) or gave different investment interests in terms of stake or investment horizon, dividend preferences or perceptions of the effectiveness of different corporate governance mechanisms.

This study measured managerial ownership as the percentage of shares held by the all directors (the number of shares owned by members of the board, divided by the number of the firm's shares outstanding at the time, *t*). If the directors were members of a family group, then managerial ownership also includes all the shares held by the group.

This study defined a dominant shareholder as the firm's largest shareholder, who directly and/or indirectly owns shares equal to or more than 25% of the voting shares. This definition is in line with the SEA (B.E. 2535; 1992), which states that shareholders who own more than 25% of shares outstanding have a significant influence on firms' operation, management and policies<sup>27</sup>.

It is, however, important to note that the 25% threshold does not give dominant shareholders limitless power, as Section 107 of the PCA (B.E. 2535; 1992) specifies that a resolution at shareholder meetings requires at least 3/4 (75%) of the total number of

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<sup>27</sup> The definition of dominant shareholders was amended by the amendment of the SEA (B.E. 2535; 1992) since 2008. Under the new definition, shareholders will have control over firms if he/she holds more than 50% of shares outstanding in the firm. Nevertheless, the threshold used in this chapter is in line with the old definition because there is evidence from existing literature in Thailand (for example, see Wiwattanakantang, 2001), dominant shareholders have control over firms when they owned at least 25% of shares outstanding.

votes of shareholders who attend the meeting and have the right to vote for significant events including the following:

- “ (1) the sale or transfer of the whole or partly of business to other person
- (2) the purchase or acceptance of transfer of the business of other companies or private company by the company
- (3) the make, amending or terminating of contracts with respect to the granting of a hire of the whole or important parts of the business with other person with the purpose of profit or loss sharing...”.

Despite the fact that the PCA (B.E. 2535; 1992) restricts public limited firms to issuing common shares on a one-share-one-vote basis, existing literature reveals that, in reality, dominant shareholders can still divert their cash-flow rights from control rights by holding shares in listed firms via firms under their control (for examples, see Carney and Child, 2012; Fan and Wong, 2002; Wiwattanakantang, 2001). In other words, in Thailand, a dominant shareholder can hold shares indirectly either via a pyramidal structure or a cross-shareholding structure<sup>28</sup>.

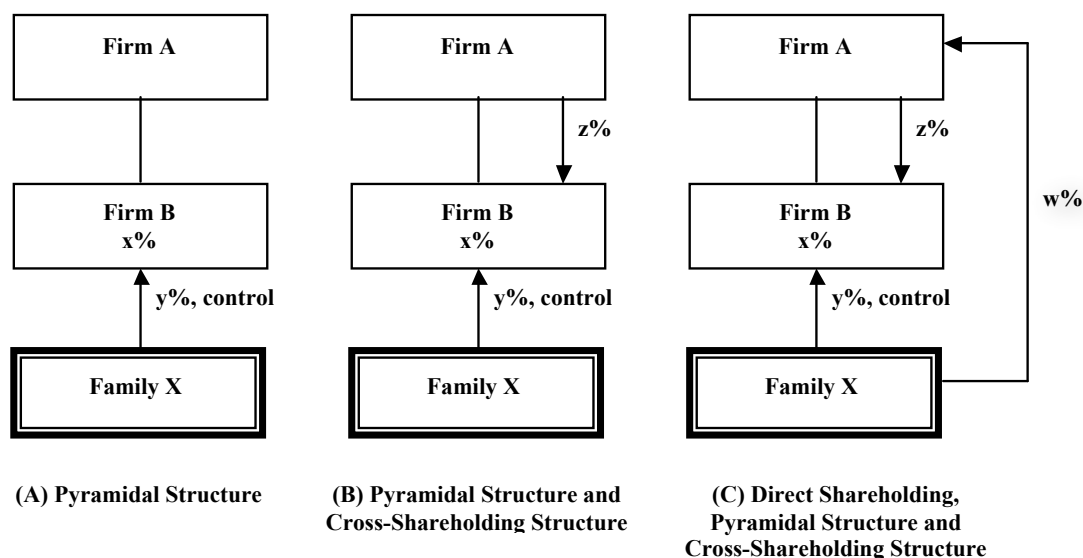
In this study, a pyramidal structure is a structure in which a dominant shareholder controls firms via either private or listed companies. For example, assuming that Firm A is a listed company in the sample, Figure 4.1(A) shows that Firm A is owned by Firm B ( $x\%$ ), which is controlled by Family X ( $y\% \geq 25$ ). Hence Family X owns Firm A ( $x\%$ ) via the pyramidal structure. Family X is a dominant shareholder of Firm A only if it is the largest shareholder of Firm A (via Firm B) and owns shares (via Firm B) equal to or more than 25% ( $x\% \geq 25$ ).

In Figure 4.1(B), if Firm A also owns shares in Firm B ( $z\%$ ), this is a cross-shareholding structure between Firm A and Firm B. In this case, Family X could have control in Firm A only if the shares of Firm A owned by Firm B are more than the shares of Firm B owned by Firm A ( $x\% - z\% > 0$ ). Family X is a dominant shareholder of Firm A only if

<sup>28</sup> As mentioned in Chapter 3, the PCA (B.E. 2535; 1992) does not allow listed companies to issue dual-class shares with different voting rights. Therefore, sources of the divergence between both rights are pyramidal structures, cross-shareholding structures or both.

it is the largest shareholder of Firm A (via Firm B) and owns shares (via Firm B) equal to or more than 25% ( $x\% > z\%$  and  $x\% \geq 25$ ).

Figure 4.1(C) shows a combination of all shareholding types: direct and indirect shareholding through pyramidal and cross-shareholding structures. It shows that, in total, the control of Family X in Firm A is equal to the sum of their control from each shareholding type ( $x\% + w\%$ , where  $x\% > z\%$  or  $w\%$ , where  $x\% < z\%$ ). Family X is a dominant shareholder of Firm A only if it is the largest shareholder of Firm A and owns total shares in Firm A (both direct and indirect) equal or more than 25% ( $x\% + w\% \geq 25$ ).



**Figure 4.1:** Example for Direct shareholding and Indirect Shareholding via Pyramidal Structure and Cross-Shareholding Structure

This study classified dominant shareholders into six types: (1) a family or an individual, (2) the government, (3) a foreign company, (4) a domestic company<sup>29</sup>, (5) a financial institution and (6) a bank. If a listed firm is owned by other private or listed firms, this

<sup>29</sup> See footnote 20.



study searched for its ultimate shareholders<sup>30</sup> along with their control chain. The dominant shareholder therefore is also the ultimate shareholder who controls the largest voting rights in a listed firm.

For families or individuals (both Thai and foreign), this study first identified the family group by its surname, so shareholders who have the same surname were treated as a single group. It is worth noting that Thai family names have a special characteristic, which is not found in some other countries; Thai surnames are unique to each family and belong to the family lineage<sup>31</sup>. Second, this study applied “the Rules of Connected Transaction” (2008)<sup>32</sup> as a guideline to identify family relationships. This rule, issued by the SECT, allowed this study to include direct family (by blood and in-law relationships) and indirect family (their relatives), who may use a different surname, in the same family group. This study used several sources to identify family relationships, including (1) Annual Registration Statements (Form 56-1), (2) Books related to the Thai Business Group<sup>33</sup> and (3) Thai articles and newspapers. If a firm was owned by limited companies, this study traced the ultimate shareholders of the limited companies.

Government refers to state agencies, as defined by “the Rules of Connected Transaction” (2008) and includes (1) government units, such as the Ministry of Finance, and (2) government organisations or business units owned by the State.

Domestic company refers to companies that are registered in Thailand and have more than half of their capital shares (51%) held by Thai people or other domestic companies.

Foreign company refers to (1) companies that are not registered in Thailand or (2) that are registered in Thailand but have at least half of their capital shares held by foreign

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<sup>30</sup> This study defined an ultimate shareholder as a shareholder at the top of the firm’s control chain of firms. The 25% threshold is applied to all layers of each firms’ control chain.

<sup>31</sup> In fact, the Individual Name Act B.E. 2505 (1962) does not allow individuals to use the same surname if it has already been registered by another person (Section 8 (3)).

<sup>32</sup> The Notification of Capital Market Supervisory Board TorChor.21/2008 Rules of Connected Transaction (Codified), effective on 31/08/2008

<sup>33</sup> This study used two main books: (1) Thai Business Groups 2001: A unique Guide to Who Owns What (Brooker Group, 2001) and (2) Super Families in Thailand (Sonsuwan, 1995)

persons or a company that is not registered in Thailand<sup>34</sup>. This study identified a company's nationality based on the SETSMART. Foreign companies therefore include many types of owner such as trading companies, banks or institutional investors. However, because of data limitations, this study could not track the ultimate shareholders of foreign companies. Therefore, it is possible for a foreign company to be part of a family's control chain. Foreign investors who are people were classified as individual/family.

Except for banks and insurance companies, financial institution includes all types of financial institution, such as finance companies, securities companies, funds, mutual funds and public mutual funds. Banks were classified separately. As mentioned in Chapter 2, the incentives for banks to hold shares in firms may differ from those of other financial institutions. This study could not track the ultimate shareholders of financial institutions and banks because of data limitations.

Additionally, this study measured the presence of dominant shareholders as a dummy variable, equal to 1 if a firm has a largest shareholder who is also a dominant shareholder, otherwise it is equal to 0. This study also categorised dominant shareholders into six types: family, government, foreign company investor, domestic company, bank and non-bank financial institutional investor.

#### **4.4.3 Ratio of Cash-flow Rights Over Voting Rights**

As mentioned in Chapter 2, existing literature claims that the separation of cash-flow rights and voting rights is potentially an incentive for the largest shareholders or dominant shareholders to exploit other shareholders, particularly when voting rights exceed cash-flow rights. Among others, Claessens et al. (2002), Lemmon and Lins (2003), Lins (2003) and Bennedsen and Nielsen (2010) generally found that low cash-flow rights, compared to voting rights, led to a low firm value. Nevertheless, the

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<sup>34</sup> Under, the Foreign Business Act B.E. 2542 (1999), "foreigner" means (1) a natural person who is not of Thai nationality, (2) a company not registered in Thailand, (3) a company registered in Thailand, of which at least half the capital shares are held by (1) or (2), or (3) a company registered in Thailand, in which investment has been placed by (1) or (2) (Section 4).

separation could also increase incentive of these shareholders to monitor managers because of lower costs (such as time and effort) on negotiation with other shareholders (Bennedsen and Nielsen, 2010).

In Thailand, the separation of rights arises from the use of various control mechanisms, such as pyramidal or cross-shareholding structures, because non-voting shares or shares with multiple voting rights are not permitted. Existing research suggests that Thai listed firms use fewer pyramidal and cross-shareholding structures than firms in other countries in East Asia (for example, see Claessens et al., 2000). However, Connelly et al. (2012) reports a higher use of pyramidal structure in family firms after the financial crisis and this structure may be used by the family firms for their private benefits.

In order to control for any effects from a difference between cash-flow rights and control rights of the largest shareholder, this study adopted Fan and Wong's (2002) method of calculating the ratio of cash-flow rights over voting rights (CV). The CV is close to 0 if the difference is large and equal to 1 if the largest shareholder directly holds shares in a firm. Because this ratio has an inverse relationship with cash-flow rights, it is expected to have a positive sign of coefficient. Hence a decrease (increase) in CV from its mean is associated with a decrease (an increase) in firm performance.

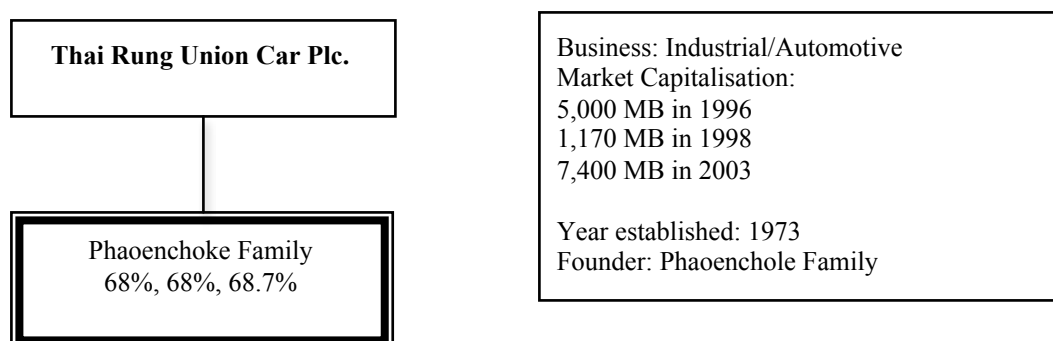
To calculate cash-flow rights, this study first identified an ultimate shareholder for each listed firm. The cash-flow rights are equal to the product of the percentage of shares owned by the ultimate shareholder along with its control chain. As shown in Figure 4.1(A) in Section 4.4.2, the cash-flow rights of Family X in Firm A is equal to  $x\% \times y\%$ , which is a product of Firm A's shares owned by Firm B ( $x\%$ ) and Firm B's shares owned by Family X ( $y\%$ ).

In Thailand, a cross-shareholding structure is normally present in firms within the same business group. This may imply that the cash-flow rights that run between firms via a cross-shareholding structure are circulated in the same group. This study therefore used the net of voting shares to calculate the cash-flow rights. As shown in Figure 4.1(B), if Firm B owns  $x\%$  of Firm A and Firm A owns  $z\%$  of Firm B, assuming that  $x\%$  is more

than  $z\%$ , the cash-flow rights of Family X in Firm A are equal to  $(x\% - z\%) \times y\%$ . In Figure 4.1(C), the cash-flow rights of Family X in Firm A are equal to  $w\% + [(x\% - z\%) \times y\%]$ .

#### 4.4.4 Examples of Ownership Structure

This section provides some examples of ownership structure in Thai listed firms. Figure 4.2 shows the ownership structure of Thai Rung Union Car Plc. for the years 1996, 1998 and 2003. The company is the largest Thai assembler of modified motor/pickup truck and was founded by the Phaoenchoke family in 1967. Its ownership has a simple structure, in which the ultimate shareholder directly holds shares in the firm. The Phaoenchoke family directly held 68%, 68% and 68.7% of shares in the company in 1996, 1998 and 2003, respectively. Hence the family is seen as the dominant shareholder of the company.



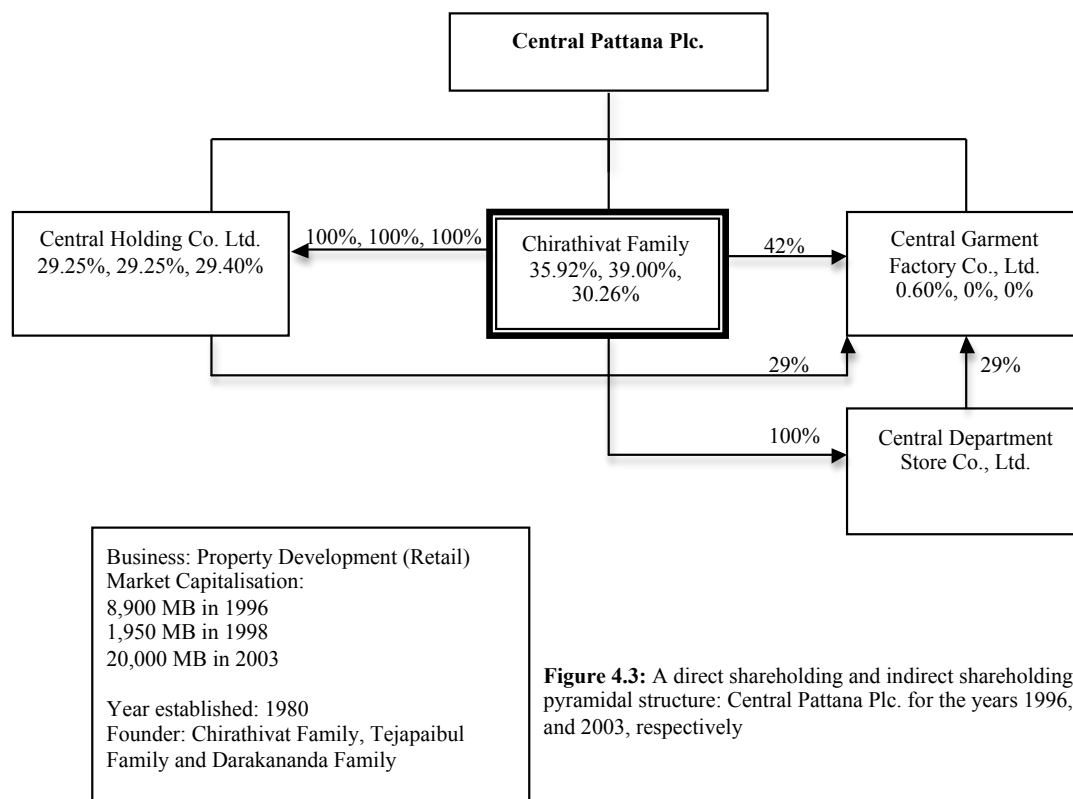
**Figure 4.2:** A direct shareholding: Thai Rung Union Car Plc.

Figure 4.3 shows the ownership structure of Central Pattana Plc. for the years 1996, 1998 and 2003. The company is the largest Thai retail developer and was founded in 1980 with joint investment from the Chirathivat family (Central Group), the Tejapaibul family (World Trade Center/Sangsom Group) and the Darakananda family (Saha-Union Group). Nevertheless, only the Chirathivat family substantially holds shares in the company.

The ownership structure of Central Pattana Plc. is a good example of both direct and indirect shareholding by a dominant shareholder. The Chirathivat family directly held 35.92%, 39.61% and 30.26% of the company's shares in 1996, 1998 and 2003, respectively. It also held 29.25%, 29.25% and 29.40% of the shares in 1996, 1998 and 2003, respectively, via Central Holding Co., Ltd., which was 100% owned by the family in all three years. Only in 1996 did the family also own 0.60% of the company's shares via Central Garment Factory Co., Ltd, of which 42% of the shares were held by the family and indirectly by companies in the family's control chain (29% via Central Holding Co., Ltd. and 29% via Central Department Store Co., Ltd). Therefore, the total voting rights are the sum of direct and indirect voting shares: 65.77% (35.92+29.25%+0.60%) in 1996, 68.25% (39.00+29.25%) in 1998 and 59.66% (30.26%+29.40%) in 2003. Total cash-flow rights are equal to the percentage of direct voting shares, plus the sum of the product of the indirect voting shares. In this case, the cash-flow rights were equal to the voting rights for all three years<sup>35</sup>.

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<sup>35</sup> For example, in 1996, cash-flow rights were  $\{35.92\% + [29.5\% \times 100\%] + [(0.60\% \times 42\%) + (0.60\% \times 29\% \times 100\%) + (0.60\% \times 29\% \times 100\%)]\} = 65.77\%$



**Figure 4.3:** A direct shareholding and indirect shareholding via pyramidal structure: Central Pattana Plc. for the years 1996, 1998 and 2003, respectively

Figures 4.4 (A), 4.4(B) and 4.4(C) show a simplified ownership structure<sup>36</sup> for Charoen Pokphand Foods Plc. for the years 1996, 1998 and 2003, respectively. Charoen Pokphand Foods Plc. (CPF) was founded by the Chearavanont family. Having started as an animal feed producer in 1978, it has expanded into a fully integrated agro-business (covering livestock and aquaculture) and become the top Thai business group and the largest Thai multinational company, expanding its businesses into many countries in Asia and Europe, such as China, Taiwan and the United Kingdom. The Chearavanont family uses either direct or indirect shareholding, via pyramidal structures and cross-shareholding, to control CPF. As discussed in Sections 4.4.2 and 4.4.3, if a dominant shareholder uses both direct and indirect shareholding, control rights are the sum of the rights from each type of shareholding.

<sup>36</sup> In fact, the Chearavanont family also controls CPF via many small private companies in its business group. This study shows only the main companies in the family control chain in order to make the example easier to understand.

Figures 4.4A and 4.4B show that the Chearavanont family did not directly own shares in CPF in the years 1996 and 1998. However, in 2003, the family directly owned 1.26% of the shares in CPF, as shown in Figure 4.4C. In all three years, the family indirectly controlled CPF via private or listed companies in its business group. In fact, the family owned 33.33%, 33.33% and 23.03% of the company's shares (in each year, respectively) via Charoen Pokphand Co., Ltd, a private company in which they held 87.87% of the shares. This represents the use of a pyramidal structure.

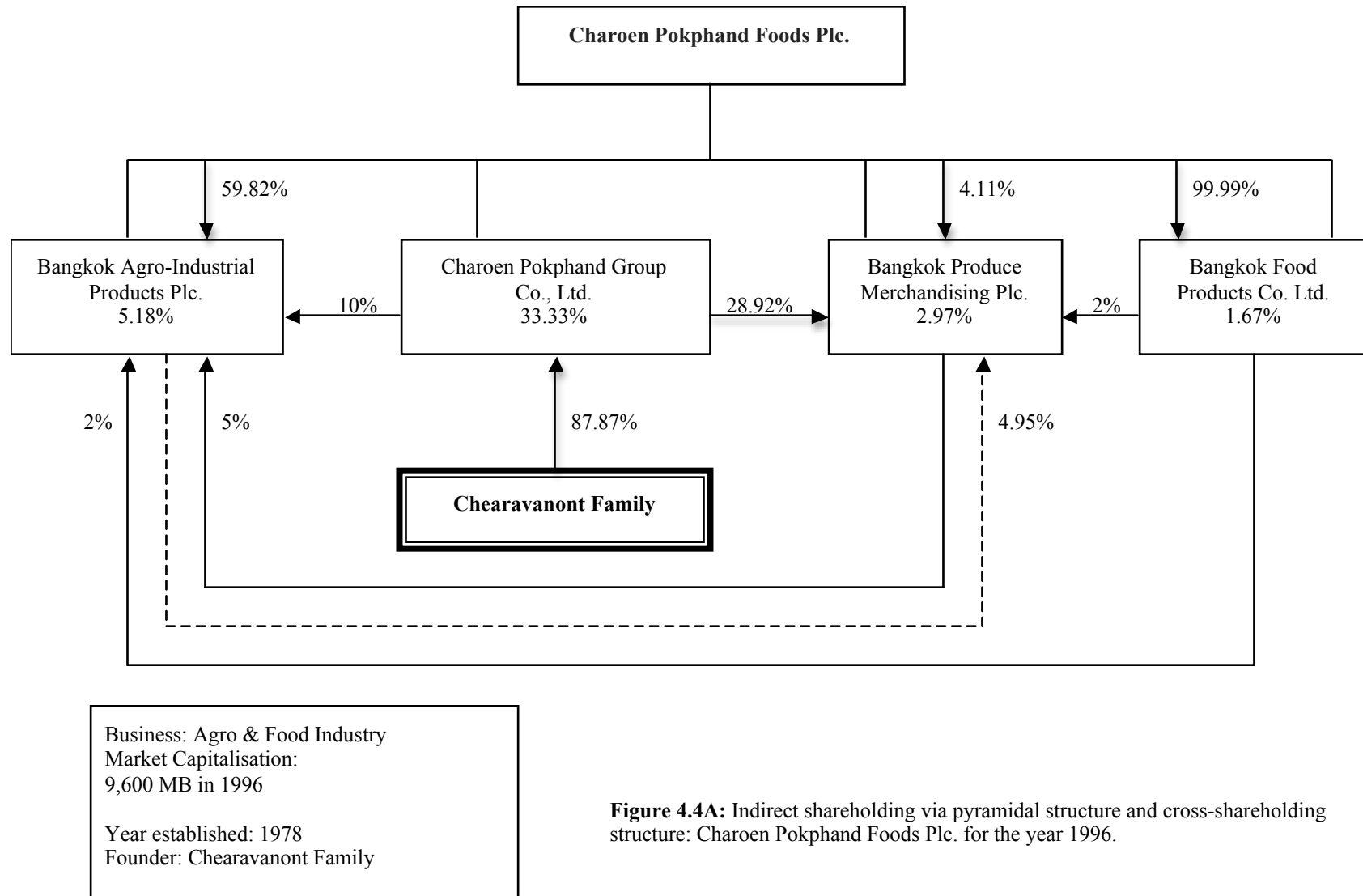
The family also owned shares via other private or listed companies in its business group. For example, Figure 4.4A shows that, in 1996, 5.18% of CPF was owned by Bangkok Agro-Industrial Products Plc. (BAP) and 59.82% of BAP's shares were owned by CPF. This represents a cross-shareholding structure and indicates that BAP was controlled by CPF<sup>37</sup> and therefore by the Chearavanont family. In total, the family controlled CPF with about 43.15%<sup>38</sup>, 43.63% and 48.83% of the shares in 1996, 1998 and 2003, respectively, and they received cash-flow rights, via direct shareholding and indirect sources, equal to 29.29%<sup>39</sup>, 31.70% and 20.24% in 1996, 1998 and 2003, respectively.

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<sup>37</sup> In this case, BAP was also a subsidiary of CPF because more than 50% of its shares were owned by CPF.

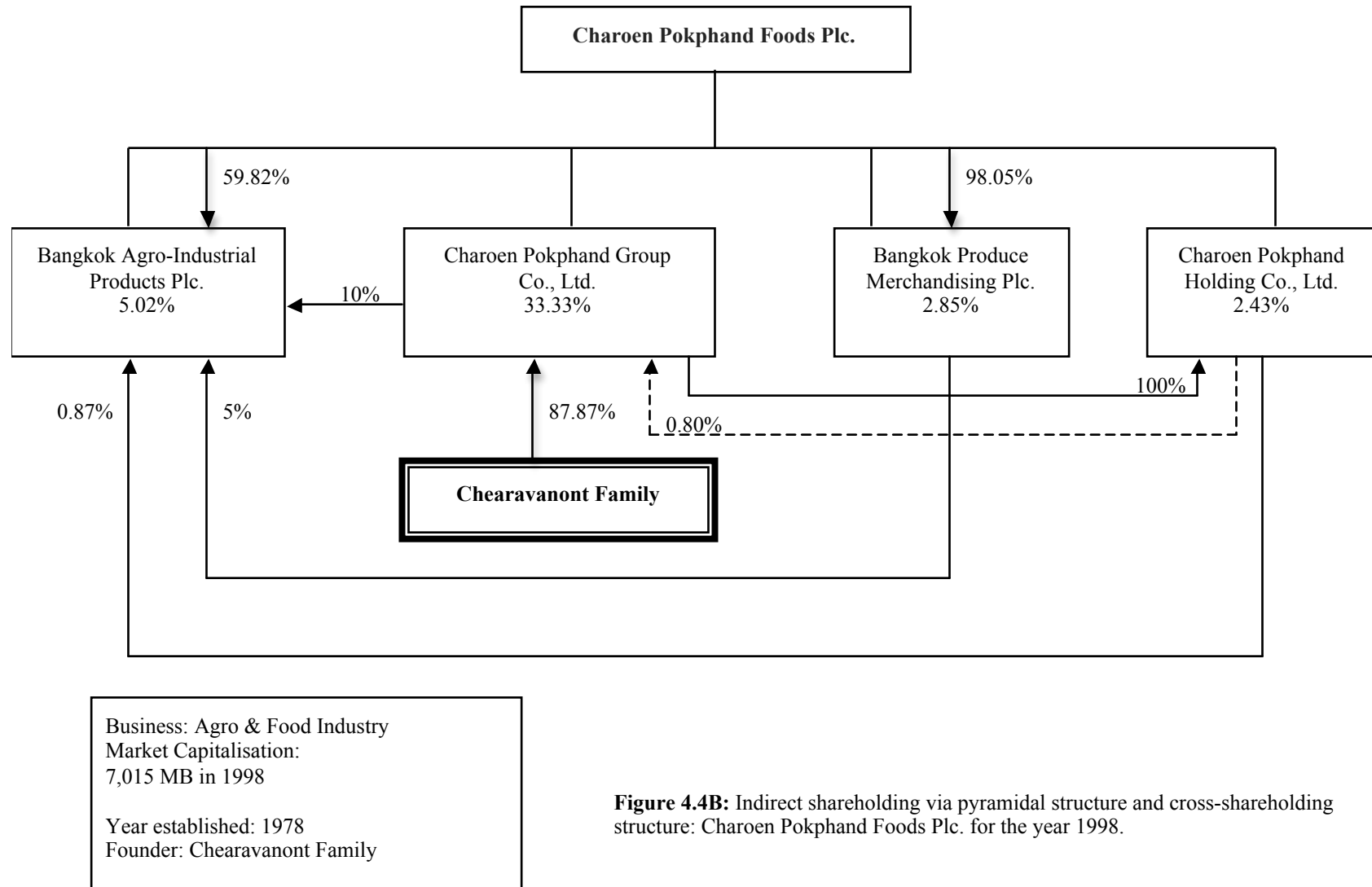
<sup>38</sup> For the simplified ownership structure of CPF, the voting rights of Chearavanont family in CPF were 43.15% (33.33% + 5.18% + 2.97% + 1.67%) in 1996, 43.63% (33.33% + 5.02% + 2.85% + 2.43%) in 1998 and 48.83% (23.03% + 2.55% + 1.45% + 20.54% + 1.26%) in 2003.

<sup>39</sup> For the simplified ownership structure of CPF, the cash-flow rights of the Chearavanont family in CPF were  $(33.33\% \times 87.87\%) = 29.29\%$  in 1996,  $\{(33.33\% \times 87.87\%) + [(100\% - 0.80\%) \times 2.43\%]\} = 31.70\%$  in 1998 and  $(23.03\% \times 87.87\%) = 20.24\%$  in 2003.

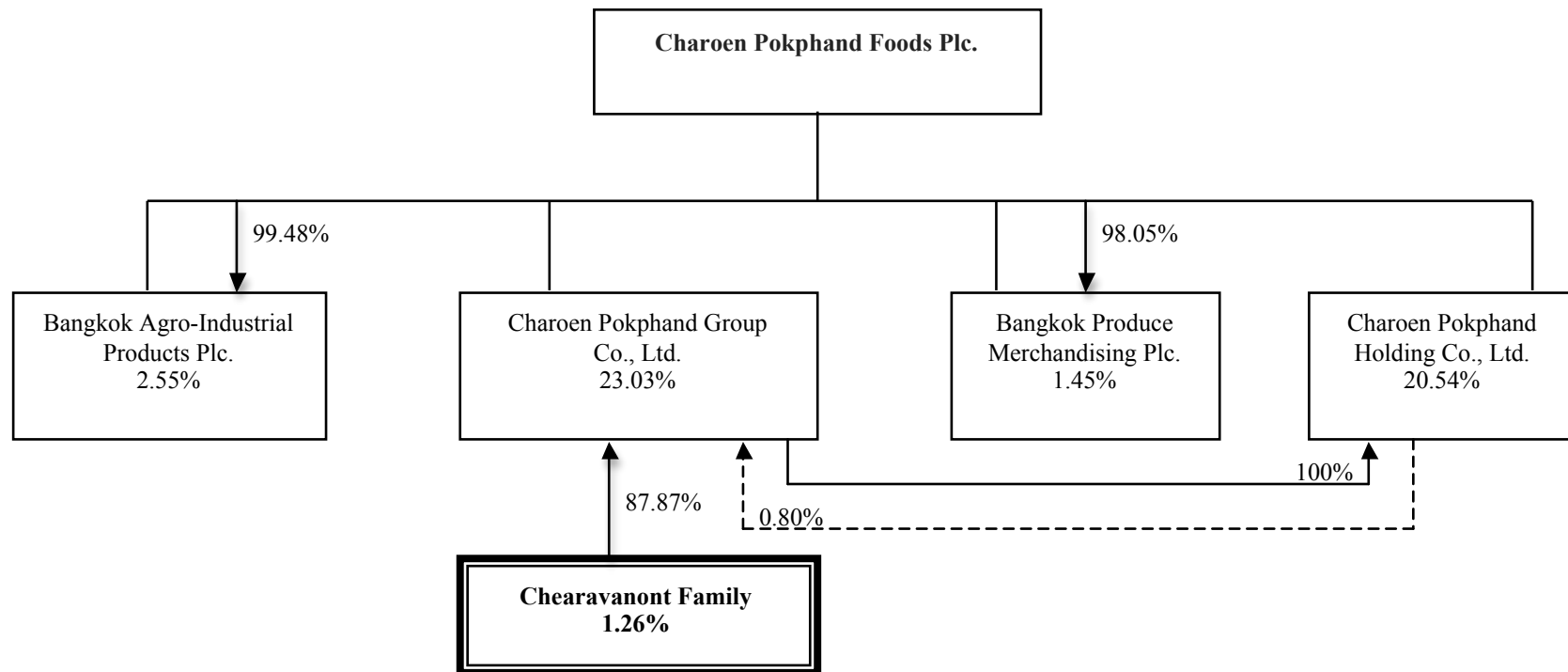


**Figure 4.4A:** Indirect shareholding via pyramidal structure and cross-shareholding structure: Charoen Pokphand Foods Plc. for the year 1996.





**Figure 4.4B:** Indirect shareholding via pyramidal structure and cross-shareholding structure: Charoen Pokphand Foods Plc. for the year 1998.



Business: Agro & Food Industry  
Market Capitalisation:  
25,200 MB in 2003

Year established: 1978  
Founder: Chearavanont Family

**Figure 4.4C:** Indirect shareholding via pyramidal structure and cross-shareholding structure: Charoen Pokphand Foods Plc. for the year 2003.

## 4.4.5 Other Corporate Governance Variables

### 4.4.5.1 *A Role of the Second Largest Shareholder*

As discussed in Chapter 2, Section 2.5.5, existing literature suggests that the role of the second largest shareholder is another mechanism that checks and balances the control of a dominant shareholder (La Porta et al., 1999; Pagano and Röell, 1998). The alignment of interest hypothesis suggests that the incentive of shareholders to participate in monitoring processes may increase in proportion to the number of shares they own (Jensen and Meckling, 1976). Hence the second largest shareholder, who owns a substantial proportion of a firm's shares, has more incentive and power to monitor the largest shareholder and to prevent them from diverting profits for their own benefit (Maury and Pajuste, 2005).

In addition, a firm may have multiple large shareholders, none of whom has absolute control. Bennedsen and Wolfenzon (2000) suggest that it is difficult for individual large shareholders to extract private benefits from firms with multiple large shareholders because they would need a coalition of other large shareholders in order to do so. They also posit that the degree of coalition among multiple large shareholders depends on the extent of their control and cash-flow rights. More cash-flow rights may restrain multiple large shareholders from extracting private benefits, because they would also bear more of the costs of such actions.

However, it is possible for large multiple shareholders to create a controlling coalition, in which they share some benefits from extracting corporate assets (Maury and Pajuste, 2005), thereby reducing firm performance. If there is a conflict of interest among the multiple shareholders, this may harm firms as well.

Among others, Lehmann and Weigand (2000) found that the second largest shareholder helped to improve firm performance (Tobin's q) in German listed companies. Maury and Pajuste (2005) found that an increase in the contestability<sup>40</sup> of the largest shareholder's

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<sup>40</sup> Maury and Pajuste (2005: 1816) define the contestability of the largest shareholder as the probability of diverted profit being recovered from other large shareholders. The contestability increases as the amount

control increased firm performance in Finnish listed firms. Their evidence also suggests that a balance (more equality) of voting shares among multiple large shareholders positively influences firm performance. Nevertheless, the role of multiple large shareholders depends on their identities. Maury and Pajuste (2005) report that the effect of ownership by the second largest shareholders on firm performance in family-controlled firms was negative when the second largest shareholder was another family. This evidence indicates the presence of collusion among families. However, the effect on firm performance was positive when the second largest shareholder was a financial institution. This evidence indicates that better monitoring was provided by the second largest shareholder.

In order to capture any effect from the second largest shareholders, this study calculated the ratio of the share difference, which is the difference between the proportions of shares owned by the largest and the second largest shareholders, divided by the proportion of shares owned by the largest shareholder. The ratio therefore ranges from 0 to 1. A high ratio (close to 1) indicates a large difference between the proportions of voting shares held by the largest and second largest shareholders and implies that the largest shareholders have close to absolute control in firms. On the other hand, a low ratio (close to 0) indicates a small difference and implies that the two largest shareholders have similar levels of control. Therefore, if the increase of shares held by the second largest shareholder increases their incentive to check and control the largest shareholder, this study expects a negative relationship between the ratio of share difference and firm performance. However, if a controlling coalition is present, a positive relationship between the ratio of share difference and firm performance is expected.

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of voting shares owned by other large shareholders, outside a coalition, increases. The contestability of the largest shareholder's power in Maury and Pajuste's (2005: 1820) study is measured by the sum of the squares of the difference between the voting share of the largest shareholders and the second largest shareholders and between the second and the third largest shareholders. This variable is expected to be negatively related to firm performance.

#### ***4.4.5.2 Board of Directors Characteristics***

As outlined in Chapter 2, Fama and Jensen (1983) suggest that a board of directors is a mechanism that is designed to separate “decision management” from “decision control”. Hence it helps to reduce the agency problem between managers and shareholders. Decision control is delegated to the board by shareholders, and it acts as their representative in ensuring that managers act in the best interests of shareholders. Existing literature suggests that characteristics of boards, particularly size, board composition and board experience, are the important factors by which to measure the quality of boards (Coles et al. 2008; Hermalin and Weisbach, 2003).

Firstly, existing research reveals that boards that are too big may lead to inefficient supervision because of the free-rider problem (Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996; Pathan et al., 2007). Some research confirms that firms benefit from having smaller boards, measured in terms of market performance (Tobin’s q) (Eisenberg et al. 1998; Yermack, 1996). By contrast, Coles et al. (2008) found that large boards benefit large, diversified or high-debt firms. In Thailand, Connelly and Limpaphayom (2004), which focused their research on Life Insurance Industry in the year 2000 to 2001, could not find any relationship between board size and firm performance.

Secondly, board independence becomes an important characteristic, particularly where a dominant shareholder manages a firm. Existing literature suggests that independent directors are less likely to be under the control of management and, in turn, may be more willing to monitor managers (for examples, see Hermalin and Weisbach et al., 1998). Independent directors (outside directors) could therefore enhance firm performance by providing more efficient supervision over management (Fama and Jensen, 1983; Hillier and McColgan, 2006). However, Baysinger and Hoskisson (1990, cited in Conyon and Peck, 1998) argue that outside directors may not be truly independent because they are normally selected by boards and are often former managers. Agrawal and Knoeber (2001) found that the presence of more outside directors decreased firm performance. They suggest that outside directors may receive some benefits, such as board seats; therefore, it may be difficult for them to maintain their independence. Bhagat and Black

(2002) also found that firms with high proportions of outside directors did not perform better than other firms did, in long term.

Fama and Jensen (1983) argue that firms may need specific information to deal with specialised decisions and are therefore likely to appoint outside directors who are experts in relevant areas such as capital markets, corporate law or relevant technology. Fich (2005) posits that expert or well-known outside directors provide benefits to firm performance. He found that new appointments of outside directors, who were CEOs of other companies, particularly from banks, were more favoured by market participants, which in turn improved market performance (measured by cumulative abnormal returns). Recently, Fields et al. (2012) found that more independence and expertise in boards reduced the cost of debt for firms in terms of lower interest rates and better credit terms.

Raheja (2005) suggests that an optimal board size and board composition (in terms of the proportions of outside and inside board members) depends on the characteristics of a firm and its directors and proposes a model suggesting that high-tech firms require a higher proportion of inside directors because it is costly and difficult for outside directors to verify projects. Coles et al. (2008) assert that firms with high R&D are likely to benefit from having inside directors who have firm-specific knowledge and therefore cast doubt on whether board characteristics, in particular smaller boards and higher numbers of outside shareholders, lead to better firm performance.

As mentioned in Chapter 3, the board structure of Thai listed firms has been changed as a result of corporate governance reform. Since 1999, listed firms have been required to set up an audit committee that is composed of at least three independent directors.<sup>41</sup> This requirement affects both board size and the proportion of independent directors in listed firms. In fact, independent directors should not have any relationship to a company apart

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<sup>41</sup> Since 2008, listed firms are required to have at least one-third independent directors on their boards.

from being directors. The definition of independent directors in this chapter is based on the qualifications<sup>42</sup> set by the SECT.

In line with the SEA (B.E. 2535: 1992), this study defined a board of directors as the board of directors of a company: a director is the director of a company, and an executive or manager is defined as a manager or person who is responsible for the management of the company.

In order to control for board characteristics, this study included board size, board independence and board experience and captured their impact on firm performance. Board size was measured using a natural log of the total number of directors on a board. Board independence is the proportion of independent directors to the total number of directors. Director experience<sup>43</sup> was measured as the ratio of the number of directors who are also appointed as directors of other listed firms to the total number of directors of a listed firm (for an example of this, see Field et al., 2012).

### ***4.4.5.3 Chief Executive Director Characteristics***

#### ***4.4.5.3.1 CEO duality***

As discussed in Chapter 2, Section 2.7.2.1, CEO duality refers to a situation in which the CEO and chairman is the same person (Boyd, 1995). Agency theory suggests that CEO duality may reduce the efficiency of a board of directors when it comes to supervising

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<sup>42</sup> According to the Notification of the Securities and Exchange Commission No. KorChor. 12/2000: 12 (superseded by TorChor. 28/2008: 8-9), “independent directors are directors whose qualifications comply with e.g. criteria as following:

- 1) Holding shares not exceeding 1% of total shares with voting right of the company, its parent company, subsidiary, affiliate or juristic person who may have conflict of interest;
- 2) Not being an employee, staff, advisor, who receives salary, or controlling person of the company, its parent company, subsidiary, affiliate or juristic person who may have conflict of interest;
- 3) Not being a person related by blood or registration under laws, such as father, mother, spouse, brothers, sisters and children, including spouses of the children, of its executives, major shareholders, controlling person, or nominees as executive or controlling person of the company or its subsidiary;
- 4) Having no business relationship with the company, its parent company, subsidiary, affiliate or juristic person who may have conflict of interest, in the manner which may interfere with his/her independent judgment, and not possessing any qualification which makes him/her incapable of expressing independent opinion with regard to the company’s business operation”

<sup>43</sup> To identify directly an education background for each board member may be a better proxy to measure board experience if data was available.

management, because of a lack of board independence (Fama and Jensen, 1983). In contrast, stewardship theory suggests that the combination of the two positions may contribute to firms in terms of (1) the specific knowledge possessed by the CEO-chairman, (2) a clearly identifiable leadership role within a firm and (3) quicker decision making in a changing business environment (Boyd, 1995; Brickley et al., 1997).

Evidence from existing research is unclear on whether CEO duality benefits firm performance or not. In the US, Rechner and Dalton (1991) found that firms with independent CEOs performed better than those with CEO duality. By contrast, Boyd (1995) found that CEO duality helped to enhance firm performance under some conditions (resource scarcity or high complexity). Brickley et al. (1997) found no evidence to support the expectation of poor accounting and market performance in firms with CEO duality.

Recently, Dey et al. (2011) focus on firms, which switched away from CEO duality to non-CEO duality. They have reported that these firms perform more poorly in terms of lower announcement return from a negative markets reaction to an announcement of the change, lower subsequent performance and lower return on investment. Peng et al. (2007), in China, found a positive impact of CEO duality on firm performance in specific environments, where there was a scarcity of resources scarcity or environmental dynamism (unpredictability of change). Tan et al. (2001), in Singapore, report similar results during the Asian economic crisis.

To capture any possible effects of CEO duality on firm performance, this study defined a dummy variable, CEO-Chair as 1 if a firm had a CEO who also served as chairman and as 0 in all other cases. In the sample, this characteristic is found in family-controlled firms. Since corporate governance reform has recommended the separation of CEO and chairman positions, many Thai listed firms tend to separate them. However, it seems that the relationship between CEO and chairman often remains very close (for example, father and son) in many listed firms. Hence their independence is unclear. Villalonga and Amit (2006) also suggest that this feature leads to poorer firm performance. To



capture this feature, this study therefore defined another dummy variable, CEO-Group, as 1 if a firm has a CEO and chairman who came from the same family but are not the same person, and as 0 in all other cases.

#### ***4.4.5.3.2 CEO Founders and CEO Descendants***

As discussed in Chapter 2, Section 2.7.2.2, this study defined a CEO founder as a CEO who is also the founder of a firm. There are two opposing aspects to a CEO founder's interests, which either align with or diverge from a firm's interests. From one point of view, a CEO founder has power of control over a firm, leading to an entrenchment effect, regardless of the proportion of their shareholding (Morck et al., 1988). In addition, family ties may motivate CEO founders to transfer a business to their descendants without considering their descendants' competency (Anderson and Reeb, 2003; Bertrand et al., 2008; Mehrotra et al., 2013; Morck et al., 1988).

From another point of view, CEO founders may contribute to firms in terms of their competence, expertise in business (Morck et al., 1988) or political network (Polsiri and Wiwattanakantang, 2004). In addition, a plan for succession may motivate CEO founders to manage firms more efficiently (Adams et al., 2009).

Existing literature reveals mixed results. For example, Anderson and Reeb (2003) report a positive relationship between CEO founders or descendants and firm performance in old and young firms. Morck et al. (1988), however, found that CEO founders only enhanced market performance in younger firms. They suggest that when firms become older it is easier for either CEO founders or their descendants to become entrenched. Villalonga and Amit (2006) report that, on average, the firms they studied gained the most benefit from having CEO founders, but firms with CEO descendants gained the least benefit. In France, Sraer and Thesmar (2007) found that firms with CEO founders and CEO descendants outperformed more widely held firms in terms of management styles (for example, hiring skilled workers with lower wages). In Thailand, Bertrand et al. (2008) also found that firms with many founder's sons in their management teams

were associated with lower firm performance, and the negative effect increased when the founder was dead.

To control for any possible effects of CEO founders or CEO descendants on firm performance, this study defined two dummy variables. Firstly, CEO founder is a dummy variable, equal to 1 if firm has a CEO founder, otherwise it is equal to 0. Second, CEO descendant is a dummy variable, equal to 1 if firm has a CEO descendant, otherwise it is equal to 0.

#### ***4.4.5.4 Leverage***

This study defined leverage as a ratio of total liabilities to total assets at the year ending 31 December. Leverage was used as a control variable in order to capture the possibility of management decisions being controlled by lenders. For example, lenders may influence managers not to invest in higher risk projects, even if they will have a positive net present value (NPV), because the higher risk may affect a firm's ability to pay for a fixed stream of loans. Therefore, if the interests of lenders diverge from those of shareholders, leverage has negative effect on firm performance (Short and Keasey, 1999).

Regarding corporate governance, Jensen (1986) suggests that leverage may be a mechanism that helps to reduce a conflict of interests between managers and shareholders, because managers commit to repay loans. This study expects to see either a positive or a negative relationship between leverage and firm performance.

#### **4.4.6 Firm Characteristics**

This study included control variables for firm characteristics that may influence firm performance, as defined in Table 4.1.

#### ***4.4.6.1 Firm Size***

Firm size was measured by log of total assets at the year ending 31 December. Existing literature suggests either positive or negative relationships between firm size and firm performance.

Larger firms may benefit from economies of scale and they are likely to have easy access to internal or external funds (Baumol, 1959 cited in Lehmann and Weigand, 2000; Short and Keasey, 1999). In addition, they may be faced with higher agency costs, implying a higher demand for better monitoring processes, and this may mean that more competent managers are hired, for example (Core et al., 1999; Himmelberg et al., 1999). Larger firms are also more likely to be monitored closely by institutional investors, market regulators and the press (Helwege et al., 2007). These arguments suggest that there will be a positive relationship between firm size and performance.

Nevertheless, larger firms tend to diversify their businesses more than smaller firms do, in turn lowering their Tobin's q. In fact, Lang and Stulz (1994) found that a negative relationship between size and Tobin's q remained after they had controlled for diversification.

#### ***4.4.6.2 Firm Growth***

Existing literature also suggests that firm growth may either influence firm performance positively or negatively. Firm growth may be a reflection of increased investment opportunities for firms and, therefore, firm performance may increase as firm growth increases (Lehmann and Weigand, 2000; Morck et al., 1988).

However, high firm growth may be the result of managers using discretion to increase their control over a firm's resources (when compensation is tied to sales growth, for instance) (Jensen, 1986; Lehmann and Weigand, 2000). In addition, investors may be too optimistic about firms that have good performance records (Lakonishok et al., 1994), leading to stock overpricing. If these firms cannot meet this expectation, firm market

performance is likely to decrease in subsequent periods (Lakonishok et al., 1994; Skinner and Sloan, 2002).

This study used sales growth as a proxy for the value of firm growth. The variable is measured by an average of annual change in sales (current sales ( $t$ ) to previous sales ( $t-1$ )), averaged over three years, for which data is available, prior to the current year (for an example of this, see Maury, 2006: 236).

#### ***4.4.6.3 Firm Age***

Firm age was natural log of the number of years since the establishment of a firm. Two opposing views suggest either positive or negative effects from firm age on firm performance.

Older firms tend to have more experience in business (Stinchcombe, 1965 cited in Majumdar, 1997). As firms grow, they may develop business strategies to compete in the market. For instance, they may invest in research and development or learn from their competitors in the same or other industries (for example, see Loderer and Waelchli, 2010). This suggests that there is a positive relationship between firm age and firm performance.

Nevertheless, older firms may be less flexible than younger firms are, making it difficult for them to adjust their organisational structure in order to respond to rapid environmental change (Marshall, 1920, cited in Majumdar, 1997). In the literature on finance, Pástor and Veronesi (2003) posit that the uncertainty over average profitability declines over a firm's lifetime because investors learn how it performs. Hence investors tend to overprice younger firms because they are unsure about their future profitability. They found that younger firms have a higher market performance (market-to-book ratio), which declines over time. These arguments predict a negative relationship between firm age and firm performance.

**Table 4.1: Summary of All Dependent and Explanatory Variables used in Chapter 4****Dependent Variables: Firm Performance Measurement**

<b>Variables</b>	<b>Description</b>
<i>Accounting Measurement</i>	
Return on Assets (ROA)	Earnings before interests and income taxes, scaled by book value of total assets (at the end of 31 December)
<i>Market Value Measurement</i>	
Quasi Tobin's q (Quasi-q)	(Market value of equity plus book value of total liabilities), scaled by book value of total assets

**Explanatory Variables: Ownership Variables**

<b>Variables</b>	<b>Description</b>	<b>Expected effect to Firm</b>
Concentrated Own	Percentage of shares owned by the largest shareholder	Positive or Negative
Family Own	Percentage of shares owned by family who is the largest shareholder in family shareholder's category	Positive or Negative
Government Own	Percentage of shares owned by government who is the largest shareholder in government shareholder's category	Positive or Negative
Foreign Company Own	Percentage of shares owned by foreign company who is the largest shareholder in foreign company shareholder's category	Positive or Negative
Domestic Company Own	Percentage of shares owned by domestic company who is the largest shareholder in domestic company shareholder's category	Positive or Negative
Bank Own	Percentage of shares owned by bank who is the largest shareholder in bank shareholder's category	Positive or Negative
Non-Bank Financial institutions Own	Percentage of shares owned by non-bank financial institutional investor who is the largest shareholder in non-bank financial institutional investor shareholder's category (excluded insurance companies)	Positive or Negative
Manager Own	Percentage of shares owned by all directors	Positive or Negative

(This table is continued on the next page)

**Table 4.1: Summary of All Dependent and Explanatory Variables used in Chapter 4 (Cont')****Explanatory Variables: Ownership Variables (Cont')**

<b>Variables</b>	<b>Description</b>	<b>Expected effect to Firm</b>
D_Dominant	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Family	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the family largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Government	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the government largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Foreign Investors	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the foreign company largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Domestic Company	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the domestic company largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Bank Own	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the bank largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Non-Bank Financial institutions	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the non-bank financial institutions largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
<b>Control Variables: Control Mechanisms</b>		
Ratio of Share Difference	Shares difference between the largest and the second largest shareholders divided by shares owned by the largest shareholder	Positive or Negative
CV	Ratio of cash-flow rights to voting rights	Positive or Negative

(This table is continued on the next page)

Table 4.1: Summary of All Dependent and Explanatory Variables used in Chapter 4 (Cont')

**Control Variables: Firm Governance**

Variables	Description	Expected effect to Firm Performance
<b>Control Variables: Board Structure</b>		
Board Size	Natural Log of number of directors in the board	Positive or Negative
Board Independence	Number of independent directors divided by total number of directors in the board	Positive or Negative
Board Experience	Number of directors who are directors of other companies divided by total number of directors in the board	Positive or Negative
<b>Control Variables: CEO Characteristics</b>		
CEO Founder	Dummy variable, which equal to one if CEO is also a founder of the firm, otherwise as zero	Positive or Negative
CEO Descendant	Dummy variable, which equal to one if CEO is founder's descendants, otherwise as zero	Positive or Negative
CEO-Chair	Dummy variable, which equal to one if firm has CEO who also serves as chairman, otherwise as zero	Positive or Negative
CEO-Chair Group	Dummy variable, which equal to one if CEO and chairman come from the same family, otherwise as zero	Positive or Negative
<b>Control Variables: Firm Characteristics</b>		
Firm Size	Natural log of total assets at the year ended 31 December	Positive or Negative
Firm Age	Natural log of number of year since established	Positive or Negative
Firm Growth	An average of annual change in sales, average over three years, or available years, prior to the current year	Positive or Negative
Leverage	Ratio of total debt to total assets (at the year ended 31 December)	Positive or Negative

## 4.5 Sampling and Data Collection

The sample in this study consists of firms that were listed in the SET from 1994 to 2007. This study has focused the sample on the end of the year 2007 in order to avoid any effects from the global financial crisis, which might distort the analysis of corporate governance reforms. This study has excluded firms in the financial sector because banks, financial institutions and insurance companies are governed under specific laws and have different regulators<sup>44</sup>. This study has also excluded firms under rehabilitation<sup>45</sup> (REHABCO) when they have been moved from their normal sector, because they are prohibited from trading and are exempted from normal practice (for example, they are not required to submit financial statements on a quarterly basis).

The sample period in this study is designed to cover major events in the Thai capital market: in particular, the financial crisis of 1997 and the reform of Thai corporate governance since 1999. The 14-year horizon data<sup>46</sup> provide for the investigation of the impact of ownership structure, observed corporate governance and firm performance over a long period; previous research in Thailand has normally focused on shorter periods, such as one year (Wiwattanakantang, 2001).

For listed companies, the database of ownership, board of directors and accounting data is officially provided by the SET. This study used two main sources of databases provided by the SET to construct datasets.

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<sup>44</sup> Firms in the financial sector (including bank and insurance companies) are regulated by the BOT. Firms in other sectors are regulated by the SECT. The two groups are also governed under different laws.

<sup>45</sup> Examples of the SET criteria for moving a firm to the “Companies under Rehabilitation” (REHABCO) sector include (1) if its shareholders’ equity is less than zero and (2) if its shareholders’ equity is less than zero if the firm has adjusted its financial statements following an auditor’s opinion. When listed firms meet the criteria, the SECT will post an “SP” sign (suspense) to prohibit the trading of their securities. If the firm cannot solve its problem (by raising additional equity), its securities will be suspended until it meets the criteria to be excluded from this sector (source: The SET, Procedure and Guidelines for Listed Companies Facing Possible Delisting and Being Subject to Preparing Rehabilitation Plans, amended 10 May 2005).

<sup>46</sup> Because the SECT was founded in 1992, data about each listed firm, such as ownership and boards of directors, before 1992 was incompletely recorded in the SET and the SECT databases; in turn, it is hard to track backdated data. The sample period in this study therefore starts in 1994, which is the earliest year from which the database provides data that is more complete.



Firstly, ownership, board of directors and accounting data from 1994 to 1996 were obtained from the Integrated-SET Information Management System (I-SIM) CD-ROM. The data from 1997 to 2007 came from the SET Market Analysis and Reporting Tool (SETSMART). This study also randomly checked the accuracy of the database with audited financial statements and the Annual Registration Statements (Form 56-1) that are annually submitted by listed firms.

The ownership data provided in I-SIM and SETSMART includes the names of shareholders, their nationality and the number and percentage of shares owned (if it is at least 0.05%) at the closing date of the registered shareholder book. Normally, the closing date occurs more than once a year and, in these cases, this study chose the ownership information from the first closing date of each sample year in order to identify the ultimate shareholders for each firm. Firm performance was measured at the year ended 31 December. This method may reduce the problem of reverse causality between ownership and firm performance. In cases where the shareholders of listed firms were private firms (limited companies)<sup>47</sup>, this study used a Copy of the Shareholders' Name List (Bor. Aor. Jor. 5 Form)<sup>48</sup> to identify their ultimate shareholders and this applied for all layers of firms (subject to data availability<sup>49</sup>).

For data on directors and executives, this study used both I-SIM and SETSMART, which provide lists of registered directors and executives<sup>50</sup> for all listed companies. They include the names, positions, types (regular, executive, independent or audit committee)

<sup>47</sup> Private or limited companies are companies not listed in the SET.

<sup>48</sup> "A Copy of Shareholders' Name List" gives information on shareholders' names, number of shares and percentage of shares owned. Limited companies are required to submit the document to the Department of Business development (DBD), Ministry of Finance when there is any change in shareholders and their shares. If no details change, the companies still have to submit the document annually with their annual financial statements. This study therefore used the first date of the sample year on which this document was submitted, in order to match with the closing date of the registration book of the listed company. The List is kept in the form of scanned documents and the data therefore had to be carefully collected by hand.

<sup>49</sup> Many limited companies that used to own listed firms had already terminated their business, so ownership data was unavailable. In these cases, this study classified their ultimate shareholders as a domestic company.

<sup>50</sup> Listed companies are required by the SECT to file the names of their directors and executives on the database of directors and executives of securities issuing companies (The Notification of the Capital Market Supervisory Board No. TorCor. 19/2010 Re: rules for listing the name of persons on the database of directors and executives of securities issuing companies).

for each director and executive as well as the start and end date of their positions. This study also used Form 56-1 to identify CEOs, chairmen and their founders and descendants.

For accounting data, this study used both I-SIM and SETSMART, which provide consolidated financial statements and companies' financial statements on an annual and quarterly basis. However, they do not provide a gross property, plant and equipment account (PPE) and depreciation account separately. Therefore, PPE and depreciation accounts were collected from DataStream (Code#WC02301 and Code#WC01148, respectively). Finally, this study used accounting data at the end of calendar years (31 December). Therefore, firms with accounting periods that do not end on 31 December are excluded from the sample.

To construct the data, this study first gathered ownership data (only common stocks) of all listed companies (1994 to 2007), excluding firms in financial and REHABCO sectors, and identified their largest shareholders. Then, where available, this study merged the ownership data with the accounting data, board of directors and firm characteristics. Firms with one-year observations (singletons) were dropped from the sample. Apart from these data restrictions, this study did not have any other criteria for selecting firms. This study also did not require a balanced panel in order to avoid selection bias. An initial data therefore consisted of unbalanced panel data on 3,998 and 3,997 firm-year observations (from 1994 to 2007) for the ROA and q samples, respectively.

## **4.6 Results**

### **4.6.1 Descriptive Analysis – Full Sample**

Table 4.2 shows numbers of non-financial listed firms in the sample from 1994 to 2007. The whole sample consists of unbalanced panel data, covering 3,998 firm-year observations from 1994 to 2007 in total for ROA, and 3,997 for Quasi-q. All continuous variables are winsorised by the 1st and 99th percentiles. Table 4.2 reveals that the

sample in this study represents, on average, 88.30% of the total number of non-listed companies in the SET.

**Table 4.2 Numbers of Non-Financial Listed Firms listed in the Stock Exchange of Thailand in Full Sample from 1994 to 2007**

<b>Fiscal Year</b>	<b>Number of Sample Firms</b>	<b>Number of Total Non-Financial Listed Firms (excl. REHABCO)</b>	<b>% of Sample Firms to Total Non-Financial Listed Firms (excl. REHABCO)</b>
1994	247	311	79.42%
1995	292	333	87.69%
1996	315	363	86.78%
1997	325	340	95.59%
1998	289	321	90.03%
1999	263	275	95.64%
2000	255	272	93.75%
2001	244	268	91.04%
2002	240	272	88.24%
2003	255	297	85.86%
2004	277	331	83.69%
2005	303	359	84.40%
2006	348	392	88.78%
2007	345	394	87.56%
<b>Total</b>	<b>3,998</b>	<b>4,528</b>	<b>88.30%</b>

Table 4.3 provides a summary of descriptive data for the full sample. In general, it shows that listed firms in the sample consist of large and smaller firms in terms of the book value of their total assets, which ranges from 892,000 million Baht to 64 million Baht. The sample firms have been established, on average, for 24 years. Regarding firm performance, it shows that the average means of the ROA and Quasi-q are 6.54% and 1.162, respectively.

Regarding ownership variables, Table 4.3 shows that, on average, the largest shareholders held 41.73% of shares, indicating that share distribution in most of the sample firms was highly concentrated. Family, government, foreign companies, domestic companies, bank and financial institutions held, on average, 35.37%, 1.32%, 9.67%, 2.23%, 1.04% and 2.50% of shares, respectively. This indicates that, on average,

most of the firms were held by dominant family shareholders. Managerial ownership averages 38.24%, which includes the percentage of shares owned by all directors. Executive directors owned 6.34% of shares on average.

The ratio of cash-flow rights to voting rights (CV) indicates the separation of cash-flow rights from control rights, ranging from 0 to 1, with ratios closer to 0 implying higher separation. Panel A shows that the mean of the ratio of cash-flow rights to CV is 0.85, which is close to 1. This is consistent with existing research that reports the CV at about 0.95 in 1996 (Fan and Wong, 2002) and 0.82 in 2008 (Carney and Child, 2012) and supports the findings of Claessens et al. (2000) and Wiwattanakantang (2001), who report that pyramidal and cross-shareholding structures are not widely used in Thai listed firms.

Table 4.3: Descriptive Statistics - Full Sample during 1994 to 2007

	No.	Mean	Median	SD	Maximum	Minimum
<b><i>Firm Characteristics</i></b> (Million Baht)						
Total Asset	3,998	8,923	2,310	31,300	892,000	64
Total Liability	3,998	5,353	1,162	19,200	494,000	0.474
Total Equity	3,998	3,362	1,005	11,800	361,000	-23,600
Total Sales	3,998	6,866	1,696	40,000	1,500,000	-646
EBIT	3,998	842	149	5,491	165,000	-25,800
Market Capitalisation	3,997	6,786	980	33,400	1,060,000	2
<b><i>Firm Performance</i></b>						
Return on Assets (ROA)	3,998	6.54%	7.58%	0.109	31.17%	-42.93%
Simplified Tobin's q (Quasi-q)	3,997	1.162	1.002	0.590	3.957	0.400
<b><i>Ownership Variables</i></b>						
<b><i>Ownership Concentration by the Largest Shareholders</i></b>						
Concentrated Own	3,998	41.73%	41.00%	18.19%	83.80%	7.50%
<b><i>Ownership Concentration by the Largest Shareholders within each Type</i></b>						
- Family	3,998	35.37%	35.40%	21.71%	83.30%	0.00%
- Government	3,998	1.32%	0.00%	6.72%	47.90%	0.00%
- Foreign company investors	3,998	9.67%	3.50%	14.51%	66.80%	0.00%
- Domestic company	3,998	2.23%	0.00%	7.44%	51.60%	0.00%
- Bank	3,998	1.04%	0.00%	2.47%	12.20%	0.00%
- Non-Bank Financial Institutions	3,998	2.50%	1.20%	3.59%	19.80%	0.00%
<b><i>Managerial Ownership</i></b>						
All Directors Ownership	3,998	38.24%	41.69%	24.67%	83.90%	0.00%
Executive Directors Ownership	3,998	6.34%	0.00%	14.97%	63.90%	0.00%
<b><i>Other Corporate Governance Mechanisms</i></b>						
<b><i>Control Mechanisms</i></b>						
Ratio of Cash Flow Rights to Voting Rights (CV)	3,998	0.851	1.000	0.246	1.000	0.085
Ratio of Share Difference	3,998	0.632	0.714	0.283	0.982	0.010

**Note:** All variables are winsorised at 1 and 99 percentiles

(This table is continued on the next pages)

Table 4.3: Descriptive Statistics - Full Sample during 1994 to 2007 (Cont')

	No.	Mean	Median	SD	Maximum	Minimum
<b>Other Corporate Governance Mechanisms (Cont')</b>						
<b><i>Board Structure</i></b>						
Number of Total Directors	3,998	12.256	12	3.961	32.000	1.000
Number of Independent Directors	3,998	4.954	5	2.488	18	0
Number of Directors who are appointed in Multiple Companies	3,998	4.992	4	3.804	26	0
Board Size	3,998	2.459	2.485	0.303	3.219	1.792
Board independence	3,998	0.426	0.412	0.220	1.000	0.080
Board Experience	3,998	0.390	0.364	0.242	0.933	0.000
<b>Other Control Variables</b>						
Number of Year Since Established	3,998	24	21	15	131	1
Firm Age (ln Age)	3,998	3.009	3.045	0.532	4.466	1.609
Leverage	3,998	0.519	0.518	0.259	1.322	0.040
Sales Growth	3,998	0.178	0.103	0.392	2.778	-0.408
Firm Size	3,998	14.856	14.653	1.295	18.610	12.632

**Note:** All variables are winsorised at 1 and 99 percentiles

## 4.6.2 Univariate Analysis

### 4.6.2.1 Firm Characteristics and Firm Performance in Firms with and without Dominant Shareholders

Table 4.4 reports a mean comparison of all continuous variables between firms with and without dominant shareholders. Panel A, in Table 4.4, shows that about 79.81% of the sampled firms had dominant shareholders. In addition, firms with dominant shareholders appear to have been larger than firms without dominant shareholders in terms of total assets, total liability, total equity, total sales and market capitalisation. Nevertheless, the growth opportunities (sales growth) of the former were lower than those of the latter by 5%. This is consistent with some previous research, which found a negative effect of firm age and firm size on firm growth (Evans, 1987; Yasuda, 2005).

The findings for larger firms with dominant shareholders, however, are different from those of research from the US, which has generally found that firms with dominant

shareholders tend to be smaller than more widely held firms (for example, see Anderson and Reeb, 2003). This may be caused by the nature of Thai listed firms, since most of them come from large family businesses. In fact, since the 1990s, it seems to have been popular among Thai big business groups for them to have firms in their groups listed in the Thai capital market (Suehiro, 2001).

Regarding firm performance, Panel B, in Table 4.4, shows that the ROA (7.33%) and Quasi-q (1.172) for firms with dominant shareholders are significantly higher than for those without dominant shareholders (ROA 3.39%, Quasi-q 1.121). This indicates that firms with dominant shareholders had superior performance to that of firms without dominant shareholders, according to accounting and market performance.

#### ***4.6.2.2 Managerial Ownership and Other Corporate Governance Mechanisms in Firms with and without Dominant Shareholders***

Panel C, in Table 4.4, shows that managerial ownership in firms with dominant shareholders (42.53%) was higher than in firms without dominant shareholders (21.26%). This suggests that dominant family shareholders are likely to take management roles in firms they own rather than to act as outside investors (for example, see Holderness and Sheehan, 1988). Nevertheless, ownership of executive directors in firm without dominant shareholders (9.64%) was higher than those with dominant shareholders (5.79%). This suggests that firms without dominant shareholders are likely to use share ownership as mechanisms to align executive directors' interests more than firms with dominant shareholders.

In addition, the CVs of firms with and without dominant shareholders are about 0.84 and 0.90, respectively. This may imply that the use of pyramidal and cross-shareholding structures was high in the case of firms with dominant shareholders. In addition, the ratio of ownership difference between the largest and the second largest shareholders seems to be larger in firms with dominant shareholders (0.70) than in those without dominant shareholders (0.35). This indicates that there was a significant difference between the proportion of shares held by the largest and by the second largest

shareholders in firms with dominant shareholders. Hence the large difference shares may limit the motivation and power of second largest shareholders to monitor the largest shareholders.

Regarding board structure, Table 4.4, Panel C, suggests that the sample firms had an average of 12 members on their boards of directors. The average board size was about the same in firms with and without dominant shareholders, as shown in Panel A. Nevertheless, firms with dominant shareholders had a higher proportion of independent directors (0.43) than firms without dominant shareholders did (0.39). Additionally, it shows that firms with dominant shareholders tended to have larger proportions of directors who were also directors of other listed firms. Although this may imply that directors of firms with dominant shareholders may have more experience in business, it may also indicate the presence of cross-directorship among firms in the same business group.



Table 4.4: Univariate Analysis – Full Sample

**Panel A: A Mean Comparison of Firms Characteristics between Firms with and without Dominant Shareholders**

	<b>Firm without Dominant Shareholder (&lt; 25%) (1)</b>		<b>Firm with Dominant Shareholder (≥ 25%) (2)</b>		<b>Mean Diff. (2) - (1)</b>	<b>t-test</b>		<b>Wilcoxon Rank- sum Test</b>	
	<b>No.</b>	<b>Mean</b>	<b>No.</b>	<b>Mean</b>		<b>t</b>	<b>p</b>	<b>z</b>	<b>p</b>
<b>Firm Characteristics</b> (Million Baht)									
Total Asset	807	5,161	3,191	9,874	4,713	3.83	0.000	3.14	0.002
Total Liability	807	3,276	3,191	5,879	2,603	3.44	0.001	2.85	0.004
Total Equity	807	1,836	3,191	3,748	1,912	4.11	0.000	2.82	0.005
Total Sales	807	2,411	3,191	7,992	5,581	3.55	0.000	8.02	0.000
EBIT	807	208	3,191	1,002	794	3.68	0.000	7.99	0.000
Market Capitalisation	807	2,566	3,190	7,854	5,288	4.03	0.000	3.69	0.000

**Panel B: A Mean Comparison of Firm Performance between Firms with and without Dominant Shareholders**

<b>Firm Performance</b>									
Return on Assets (ROA)	807	3.39%	3,191	7.33%	3.94%	9.30	0.000	7.65	0.000
Simplified Tobin's q (Quasi-q)	807	1.121	3,190	1.172	0.052	2.23	0.026	2.42	0.016

**Panel C: A Mean Comparison of Managerial Ownership and Other Corporate Governance Variables between Firms with and without Dominant Shareholders**

<b>Managerial Ownership</b>									
All Director Ownership	807	21.26%	3,191	42.53%	21.27%	23.3	0.000	21.6	0.000
Executive Directors Ownership	807	9.64%	3,191	5.79%	-3.84%	-10.2	0.000	-10.7	0.000

**Note:** All variables are winsorised at 1 and 99 percentiles

(This table is continued on the next pages)

Table 4.4: Univariate Analysis – Full Sample (Cont')

**Panel C: A Mean Comparison of Managerial Ownership and Other Corporate Governance Variables between Firms with and without Dominant Shareholders (Cont')**

	Firm without Dominant Shareholder ( $< 25\%$ ) (1)		Firm with Dominant Shareholder ( $\geq 25\%$ ) (2)		Mean Diff. (2) - (1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
<b>Control Mechanisms</b>									
CV	807	0.904	3,191	0.837	-0.067	-6.95	0.000	-9.61	0.000
Ratio of Share Difference	807	0.349	3,191	0.704	0.355	36.8	0.000	30.8	0.000
<b>Board Structure</b>									
Number of Total Directors	807	12.374	3,191	12.226	-0.148	-0.95	0.342	-1.82	0.069
Number of Independence Directors	807	4.75	3,191	5	0.256	2.62	0.010	3.05	0.002
Number of Directors who are appointed in Multiple Companies	807	4.538	3,191	5.107	0.569	3.80	0.000	3.13	0.002
Board Size	807	2.475	3,191	2.454	-0.021	-1.75	0.081	-1.83	0.068
Board Independence	807	0.399	3,191	0.433	0.426	3.89	0.000	3.77	0.000
Board Experience	807	0.353	3,191	0.399	0.046	4.84	0.000	4.36	0.000
<b>Other Control Variables</b>									
Number of Year Since Established	807	22	3,191	24	2	3.75	0.000	3.50	0.001
Age (ln Age)	807	2.952	3,191	3.024	0.072	3.45	0.000	3.50	0.001
Leverage	807	0.523	3,191	0.518	-0.005	-0.48	0.630	-0.02	0.983
Sales Growth	807	0.218	3,191	0.168	-0.050	-3.27	0.001	-2.26	0.024
Firm Size	807	14.698	3,191	14.897	0.199	3.91	0.000	3.14	0.002

**Note:** All variables are winsorised at 1 and 99 percentiles

Table 4.5: Percentage of Share Ownership Classified by Types of Shareholders from 1994 to 2007

## Panel A: Firms with Dominant Shareholders

Year	Largest Dominant Shareholder		Types of the Largest Shareholder who are Dominant Shareholders											
			Family		Government		Foreign		Domestic		Bank		Financial institutions	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1994	186	45.45	158	46.18	4	46.78	19	40.84	3	39.50	0	0.00	2	37.65
1995	223	47.09	187	47.96	5	46.88	23	40.45	7	47.69	0	0.00	1	34.00
1996	249	47.19	208	47.77	5	46.90	28	42.04	7	52.69	0	0.00	1	33.90
1997	259	48.12	211	49.21	5	45.42	32	41.67	9	50.70	0	0.00	2	32.10
1998	234	47.89	191	49.12	6	45.17	30	41.34	6	46.30	0	0.00	1	34.40
1999	212	47.40	168	48.82	7	38.71	32	42.32	4	46.80	0	0.00	1	34.40
2000	207	47.34	158	48.52	6	40.98	37	43.06	3	54.67	2	47.80	1	34.90
2001	200	47.83	150	49.04	6	43.55	37	43.88	4	47.25	2	50.55	1	34.90
2002	193	48.08	142	48.62	8	45.76	38	45.90	3	54.67	2	51.25	0	0.00
2003	207	47.74	159	48.16	8	45.58	33	47.08	4	40.35	3	48.50	0	0.00
2004	226	47.44	172	47.54	7	42.17	34	47.89	7	47.93	4	41.70	2	59.60
2005	247	48.96	197	49.21	8	49.86	35	46.93	3	52.50	2	47.10	2	52.80
2006	280	49.98	217	50.75	10	48.43	39	48.10	10	44.53	2	36.00	2	51.15
2007	268	50.21	210	50.95	9	47.16	37	48.59	10	46.24	2	35.30	0	0.00
Total	3,191	48.01	2,528	48.70	94	45.38	454	44.65	80	47.77	19	44.65	16	42.07

## Mean of Share Ownership and Comparison of Pre (1994-1998) and Post (2000 – 2007) the Corporate Governance Reform

	Largest Dominant Shareholder		Family		Government		Foreign		Domestic		Bank		Financial institutions	
Pre-CG	1,151	47.24	955	48.13	25	46.16	132	41.34	32	48.60	0	0.00	7	34.54
Post -CG	1,828	48.57	1,405	49.23	62	45.82	290	46.41	44	47.25	19	44.65	8	49.61
Mean Diff.		1.33		1.10		-0.034		5.07		-1.35		-		1.51
t		2.38		1.76		-0.10		3.24		-0.55		n/a		1.40
p_value		0.018		0.079		0.920		0.001		0.587		n/a		0.186

**Note:** Percentages of share ownership shown here are before winsorising.

Table 4.5: Percentage of Share Ownership Classified by Types of Shareholders from 1994 to 2007 (Cont')

## Panel B: Firms without Dominant Shareholders

Year	Non-Dominant Largest Shareholder		Types of the Largest Shareholder who are not Dominant Shareholders											
			Family		Government		Foreign		Domestic		Bank		Financial institutions	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1994	61	15.96	61	13.64%	61	0.51	61	6.11	61	2.00	61	1.49	61	4.20
1995	69	17.57	69	14.38%	69	0.62	69	5.59	69	2.98	69	1.67	69	4.69
1996	66	17.26	66	14.15%	66	0.53	66	5.85	66	2.98	66	1.61	66	4.52
1997	66	17.87	66	14.99%	66	1.26	66	5.66	66	2.25	66	2.21	66	5.04
1998	55	17.92	55	15.09%	55	1.35	55	6.19	55	2.65	55	2.12	55	4.34
1999	51	17.95	51	15.01%	51	0.94	51	6.82	51	3.85	51	2.33	51	4.09
2000	48	17.24	48	14.19%	48	1.43	48	6.73	48	3.43	48	2.50	48	4.17
2001	44	17.32	44	13.45%	44	0.54	44	8.32	44	3.43	44	2.57	44	3.34
2002	47	16.58	47	13.88%	47	0.97	47	8.23	47	2.79	47	2.19	47	3.18
2003	48	16.31	48	13.84%	48	1.29	48	7.30	48	2.95	48	1.44	48	2.93
2004	51	16.63	51	13.49%	51	1.12	51	7.44	51	2.41	51	0.91	51	1.61
2005	56	16.39	56	13.11%	56	1.41	56	7.02	56	1.73	56	0.88	56	2.96
2006	68	17.09	68	14.48%	68	1.31	68	6.10	68	1.05	68	1.33	68	2.01
2007	77	16.77	77	14.17%	77	1.19	77	5.67	77	1.79	77	0.74	77	1.92
Total	807	17.07	807	14.16%	807	1.03	807	6.51	807	2.52	807	1.66	807	3.50

## Mean of Share Ownership and Comparison of Pre (1994-1998) and Post (2000 – 2007) the Corporate Governance Reform

	Non-Dominant Largest Shareholder		Family		Government		Foreign		Domestic		Bank		Financial institutions	
Pre-CG	317	17.32	317	14.44	317	0.84	317	5.86	317	2.58	317	1.81	317	4.57
Post -CG	439	16.79	439	13.87	439	1.18	439	6.95	439	2.32	439	1.48	439	2.66
Mean Diff.		-0.53		-0.58		0.33		1.09		-0.27		-0.34		-1.91
t		-1.31		-1.12		1.06		2.10		-0.77		-1.44		-6.13
p_value		0.189		0.262		0.288		0.036		0.441		0.151		0.000

Note: Percentages of share ownership shown here are before winsorising.

#### ***4.6.2.3 The Pattern of Ownership Structure***

Panels A and B, in Table 4.5, present the means of the numbers of voting shares, classified by the type of shareholder, for firms with and without dominant shareholders from 1994 to 2007.

Regarding firms with dominant shareholders, Panel A, in Table 4.5, shows that, on average, dominant family shareholders owned about 48.7% of voting shares during the periods studied.

The mean proportion of shares held by dominant government owners was about 45.38%. In addition, the proportion of shares held by dominant government shareholders tended to gradually increase overall, with a slight drop in some years.

Dominant shareholders that are foreign companies held an average of 44.65% of shares and their ownership tended to gradually increase every year. Ownership by dominant shareholders that are domestic companies was about 47.77%, with a slight drop in some years.

Banks acting as dominant shareholders owned about 44.65% of shares, on average. A few dominant bank shareholders were present from 1999 onwards. This might have been due to the 1997 financial crisis, which may have forced some firms to be owned by their lenders. On average, a few non-bank financial institutional investors acting as dominant shareholders owned about 42.07% of shares. Small number of bank and non-bank financial institutional investors acted as dominant shareholders suggests that these shareholders prefer to invest in firms as outside blockholders rather than to control the firms in which they invest.

For firms without dominant shareholders, Panel B, in Table 4.5, shows that, while the largest family shareholders who are not dominant shareholders held an average of 14.16% of shares, other types of the largest shareholders owned less than 10% of the shares.

Overall, evidence from this section suggests that the pattern of ownership structure in Thailand has not significantly changed through the periods studied. The evidence also suggests that, in the periods studied, ownership distributions in most listed firms were still highly concentrated in the hands of dominant shareholders who are family.

#### ***4.6.2.4 Before and After the Corporate Governance Reforms***

##### ***4.6.2.4.1 Firm Characteristics and Firm Performance***

Panels A, B and C, in Table 4.6, provide mean comparisons of firm characteristics and other corporate governance variables before (1994 to 1998) and after (2000 to 2007) the corporate governance reforms. After the exclusion of single-year observations, the sub-samples remain 1,468 in pre-reform periods and 2,267 in post-reform periods for ROA, and 1,467 and 2,267 for the Quasi-q sample.

Overall, Panel A, in Table 4.6, suggests that the sample firms were larger after the reforms, in terms of the book value of their assets, market capitalisation, equity and sales. Nevertheless, the leverage ratio statistically reduces on average from 59.5% to 46.3%. Although, this ratio is still high, its decline may partly have resulted from firms being limited to funding with further debt due to the financial crisis.

Regarding firm performance, while the ROA appears to have improved after the reform, there is no significant improvement in Quasi-q after the reform, as shown in Panel B, in Table 4.6.

##### ***4.6.2.4.2 Other Corporate Governance Variables***

Regarding the structures of ownership and control, Panel C, in Table 4.6, shows that there has been no significant change in managerial ownership, CV ratio and the ratio of difference between the largest shareholders and the second largest shareholders after the reforms.

Regarding board structure, firms seem to have had bigger boards and higher proportions of independent directors after the reforms. This may be a result of the requirement for

listed firms to have at least three independent directors. Nevertheless, it appears that the proportion of directors who are directors of other boards has been significantly reduced after the reforms.

#### ***4.6.2.4.3 The Pattern of Ownership Structure***

In consideration of corporate governance reform, Panel A, in Table 4.5, suggests that the average proportion of shares owned by the largest shareholders has significantly increased after the reforms. Indeed, more concentration of ownership appears to have taken place in firms where the largest shareholders were dominant family, foreign or bank shareholders. Panel B, in Table 4.5, suggests that, on average, while the largest shareholders who are foreign companies significantly increased their proportion of investment, those who are non-bank financial institutional investors significantly decreased their investment. Hence, on average, there has been no significant change of ownership structure in firms without dominant shareholders.

Overall, the evidence contradicts the expectation that the reforms would reduce the motivation of shareholders to have concentrated ownership, because they were already protected by the better system.

**Table 4.6: Univariate Analysis – A Mean Comparison of Variables between Pre-Reform and Post-Reform of the Corporate Governance System**

**Panel A: Firm Characteristics**

	Pre-Reform 1994 to 1998 (1)		Post- Reform 2000 to 2007 (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- Sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
<b><i>Firm</i></b>									
Total Asset	1,468	6,852	2,267	10,400	3,498	3.29	0.001	1.90	0.057
Total Liability	1,468	4,730	2,267	5,718	9,876	1.53	0.127	-4.39	0.000
Total Equity	1,468	1,969	2,267	4,383	2,415	5.97	0.000	9.94	0.000
Total Sales	1,468	3,219	2,267	9,557	6,338	4.59	0.000	10.73	0.000
EBIT	1,468	430	2,267	1,176	746	3.94	0.000	3.48	0.001
Market Capitalisation	1,467	3,968	2,267	8,882	4,914	4.28	0.000	10.16	0.000

**Panel B: Firm Performance**

<b><i>Firm Performance</i></b>									
Return on Assets (ROA)	1,468	6.28%	2,267	7.11%	0.008	2.35	0.019	2.03	0.043
Simplified Tobin's q (Quasi-q)	1,467	1.173	2,267	1.170	-0.004	-0.19	0.847	-0.46	0.645

**Panel C: Ownership Variables**

<b>Ownership Concentration</b>									
Ownership Concentration by the Largest Shareholder	1,468	40.73%	2,267	42.38%	1.64%	2.69	0.007	2.43	0.015
- Family	1,468	35.76%	2,267	35.03%	-0.72%	-0.99	0.322	-1.24	0.214
- Government	1,468	0.93%	2,267	1.58%	0.65%	2.90	0.004	3.26	0.001
- Foreign company investors	1,468	7.98%	2,267	10.68%	2.70%	5.58	0.000	3.70	0.000
- Domestic company	1,468	2.11%	2,267	2.41%	-0.30%	-1.19	0.236	-4.86	0.000
- Bank	1,468	1.03%	2,267	1.01%	-0.01%	-0.14	0.888	-0.81	0.419
- Non-Bank Financial Institutions	1,468	3.35%	2,267	1.87%	-1.48%	-12.75	0.000	-18.65	0.000

(This table is continued on the next page)



Table 4.6: Univariate Analysis – A Mean Comparison of Variables between Pre-Reform and Post-Reform of the Corporate Governance System (Cont')

## Panel C: Ownership Variables (Cont')

	Pre-Reform 1994 to 1998 (1)		Post- Reform 2000 to 2007 (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- Sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
<b>Managerial Ownership</b>									
Director Ownership	1,468	38.37%	2,267	37.93%	-0.44%	-0.54	0.592	-0.36	0.717
Executive Director Ownership	1,468	6.35%	2,267	6.35%	-0.00%	-0.00	0.998	-0.37	0.715

## Panel D: Other Control Variables

<b>Control Mechanisms</b>									
CV	1,468	0.851	2,267	0.850	-0.000	-0.02	0.987	1.28	0.201
Ratio of Share Difference	1,468	0.641	2,267	0.629	-0.012	-1.25	0.211	-1.58	0.114
<b>Board Structure</b>									
Number of Total Directors	1,468	11.714	2,267	12.448	0.734	5.65	0.000	7.54	0.000
Number of Independent Directors	1,468	2.334	2,267	6.534	4.200	85.58	0.000	50.83	0.000
Number of Directors who are appointed in Multiple Companies	1,468	4.990	2,267	4.391	-0.592	-0.47	0.638	0.17	0.866
Board Size	1,468	2.406	2,267	2.481	0.075	7.48	0.000	7.53	0.000
Board	1,468	0.218	2,267	0.556	0.337	67.46	0.000	47.86	0.000
Board Experience	1,468	0.405	2,267	0.381	-0.024	-2.94	0.003	-2.37	0.018
<b>Other Control Variables</b>									
Number of Year Since Established	1,468	20.734	2,267	25.542	4.807	9.66	0.000	15.28	0.000
Age (ln_Age)	1,468	2.848	2,267	3.115	0.267	15.37	0.000	15.29	0.000
Leverage	1,468	0.594	2,267	0.463	-0.132	-15.90	0.000	-15.65	0.000
Sales Growth	1,468	0.215	2,267	0.170	-0.045	-3.37	0.001	-5.19	0.000
Firm Size	1,468	14.793	2,267	14.907	0.114	2.63	0.009	1.90	0.057

**Table 4.7: Pearson Correlation Matrix and Spearman Correlation Matrix**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,998 (3,997) firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

		<b>Panel A: Pearson Correlation Matrix</b>											
<b>Variables</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
1	ROA <sub>t</sub>	1.000											
2	Quasi-q <sub>t</sub>	0.275*	1.000										
3	Concentrated Own	0.115*	0.014	1.000									
4	Family Own	0.056*	-0.017	0.715*	1.000								
5	Government Own	0.079*	0.104*	0.012	-0.240*	1.000							
6	Foreign Com. Own	0.069*	-0.004	0.028	-0.439*	-0.041*	1.000						
7	Domestic Com. Own	-0.050*	0.043*	-0.039	-0.285*	-0.004	-0.006	1.000					
8	Bank Own	-0.060*	-0.039	-0.129*	-0.158*	0.058*	-0.069*	0.097*	1.000				
9	Non- Bank Fin. Own	-0.067*	-0.046*	-0.155*	-0.156*	-0.026	-0.057*	0.063*	0.041*	1.000			
10	Director Ownership	0.057*	-0.052*	0.479*	0.796*	-0.274*	-0.452*	-0.277*	-0.180*	-0.138*	1.000		
11	Executive Director	-0.013	-0.016	0.069*	0.171*	-0.080*	-0.120*	-0.084*	-0.092*	-0.005	0.254*	1.000	
12	Ratio of Share Difference	0.091*	-0.013	0.732*	0.545*	-0.014	-0.168*	-0.058*	-0.091*	-0.126*	0.329*	0.071*	1.000
13	CV	-0.023	0.044*	-0.129*	-0.177*	0.026	0.101*	-0.066*	-0.091*	0.091*	-0.039	0.089*	-0.098*
14	Board Size	-0.068*	-0.061*	-0.114*	-0.104*	0.168*	0.038	0.066*	0.142*	-0.051*	-0.094*	-0.035	-0.120*
15	Board Independence	0.027	0.034	0.103*	0.021	0.004	0.068*	-0.047*	-0.071*	-0.155*	0.013	0.021	0.061*
16	Board Experience	0.022	0.046*	0.090*	0.083*	0.139*	-0.038	0.010	0.152*	-0.064*	-0.067*	-0.088*	0.108*
17	CEO Founder	0.023	-0.064*	-0.060*	0.079*	-0.101*	-0.146*	-0.077*	-0.104*	-0.043*	0.223*	0.234*	-0.017
18	CEO Descendant	0.011	-0.012	0.172*	0.243*	-0.064*	-0.080*	-0.080*	-0.019	-0.028	0.210*	0.115*	0.153*
19	CEO-Chair	0.005	-0.017	0.014	0.125*	-0.072*	-0.112*	-0.085*	-0.085*	-0.033	0.176*	0.086*	0.055*
20	CEO-Group	0.037	-0.037	0.187*	0.239*	-0.072*	-0.073*	-0.035	-0.012	-0.076*	0.209*	0.048*	0.165*
21	Firm Size	0.081*	0.148*	-0.008	-0.107*	0.273*	0.102*	0.005	0.030	-0.139*	-0.210*	-0.039	0.067*
22	Firm Age	0.030	-0.132*	0.084*	0.033	-0.109*	0.143*	0.014	0.001	-0.119*	-0.002	-0.033	0.031
23	Sales Growth	0.156*	0.146*	-0.054*	-0.080*	0.118*	-0.011	-0.015	0.020	-0.013	-0.103*	-0.022	0.003
24	Leverage	-0.397*	0.058*	-0.036	0.020	-0.006	-0.108*	0.020	0.052*	0.079*	0.004	0.045*	0.002

(This table is continued on the next pages)

**Table 4.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,998 (3,997) firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

Variables		Panel A: Pearson Correlation Matrix (Cont')											
		13	14	15	16	17	18	19	20	21	22	23	24
13	CV	1.000											
14	Board Size	-0.295*	1.000										
15	Board Independence	0.155*	-0.310*	1.000									
16	Board Experience	-0.322*	0.211*	-0.087*	1.000								
17	CEO Founder	0.168*	-0.118*	0.102*	-0.160*	1.000							
18	CEO Descendant	-0.032	0.076*	0.034	0.038	-0.197*	1.000						
19	CEO-Chair	0.083*	-0.093*	0.108*	-0.046*	0.472*	0.075*	1.000					
20	CEO-Group	0.043*	-0.010	0.054*	-0.025	-0.090*	0.514*	-0.158*	1.000				
21	Firm Size	-0.063*	0.254*	-0.003	0.358*	-0.079*	0.064*	-0.019	0.005	1.000			
22	Firm Age	-0.025	0.108*	0.139*	0.097*	-0.072*	0.053*	-0.011	0.094*	-0.097*	1.000		
23	Sales Growth	0.009	-0.016	-0.042*	0.073*	-0.004	-0.021	-0.018	-0.023	0.203*	-0.231*	1.000	
24	Leverage	0.022	-0.007	-0.145*	0.064*	0.017	-0.007	0.001	0.011	0.253*	-0.157*	0.003	

**Table 4.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,998 (3,997) firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

		Panel B: Spearman Correlation Matrix											
Variables		1	2	3	4	5	6	7	8	9	10	11	12
1	ROA <sub>t</sub>	1.000											
2	Quasi-q <sub>t</sub>	0.319*	1.000										
3	Concentrated Own	0.096*	0.000	1.000									
4	Family Own	0.035	-0.033	0.709*	1.000								
5	Government Own	0.058*	0.100*	-0.035	-0.181*	1.000							
6	Foreign Com. Own	0.126*	0.059*	-0.163*	-0.391*	0.032	1.000						
7	Domestic Com. Own	-0.086*	0.022	-0.197*	-0.275*	0.031	0.024	1.000					
8	Bank Own	-0.065*	-0.044*	-0.155*	-0.166*	0.105*	-0.016	0.159*	1.000				
9	Non- Bank Fin. Own	-0.047*	-0.047*	-0.208*	-0.158*	-0.023	-0.056*	0.056*	0.054*	1.000			
10	Director Ownership	0.037	-0.068*	0.496*	0.799*	-0.266*	-0.428*	-0.259*	-0.187*	-0.142*	1.000		
11	Executive Director Ownership	0.004	-0.044*	-0.127*	0.018	-0.142*	-0.112*	-0.019	-0.047*	0.018	0.178*	1.000	
12	Ratio of Share Difference	0.080*	-0.016	0.787*	0.588*	-0.011	-0.277*	-0.173*	-0.107*	-0.095*	0.378*	-0.083*	1.000
13	CV	0.006	0.048*	-0.191*	-0.273*	0.018	0.102*	-0.010	-0.047*	0.066*	-0.136*	0.079*	-0.160*
14	Board Size	-0.063*	-0.053*	-0.115*	-0.113*	0.177*	0.124*	0.094*	0.151*	-0.075*	-0.102*	-0.033	-0.135*
15	Board Independence	0.029	0.039	0.088*	0.011	0.000	0.020	-0.091*	-0.077*	-0.225*	0.016	0.003	0.053*
16	Board Experience	0.023	0.072*	0.075*	0.065*	0.186*	0.071*	0.039	0.140*	-0.078*	-0.079*	-0.133*	0.087*
17	CEO Founder	0.025	-0.048*	-0.068*	0.075*	-0.091*	-0.096*	-0.050*	-0.107*	0.012	0.213*	0.241*	-0.021
18	CEO Descendant	-0.001	-0.013	0.185*	0.252*	-0.037	-0.034	-0.088*	-0.013	-0.023	0.205*	0.019	0.153*
19	CEO-Chair	0.016	-0.011	0.010	0.125*	-0.020	-0.053*	-0.064*	-0.081*	0.025	0.164*	0.057*	0.053*
20	CEO-Group	0.018	-0.028	0.198*	0.244*	-0.077*	-0.023	-0.054*	-0.033	-0.074*	0.208*	-0.049*	0.180*
21	Firm Size	0.048*	0.188*	-0.021	-0.099*	0.230*	0.259*	0.062*	0.121*	-0.107*	-0.193*	-0.073*	0.057*
22	Firm Age	0.001	-0.144*	0.084*	0.037	-0.022	0.101*	-0.020	-0.019	-0.174*	0.014	-0.081*	0.028
23	Sales Growth	0.323*	0.248*	-0.044*	-0.059*	0.068*	0.033	-0.002	-0.007	0.004	-0.088*	-0.010	0.014
24	Leverage	-0.343*	0.178*	-0.030	0.027	-0.018	-0.088*	0.090*	0.084*	0.107*	0.006	-0.007	0.016

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**Table 4.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

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Variables		Panel B: Spearman Correlation Matrix (Cont')											
		13	14	15	16	17	18	19	20	21	22	23	24
13	CV	1.000											
14	Board Size	-0.256*	1.000										
15	Board Independence	0.149*	-0.282*	1.000									
16	Board Experience	-0.317*	0.228*	-0.094*	1.000								
17	CEO Founder	0.139*	-0.114*	0.106*	-0.166*	1.000							
18	CEO Descendant	-0.080*	0.074*	0.040	0.045*	-0.197*	1.000						
19	CEO-Chair	0.051*	-0.093*	0.106*	-0.051*	0.472*	0.075*	1.000					
20	CEO-Group	-0.013	-0.019	0.056*	-0.027	-0.089*	0.514*	-0.158*	1.000				
21	Firm Size	-0.089*	0.217*	-0.005	0.347*	-0.066*	0.067*	0.012	0.012	1.000			
22	Firm Age	-0.055*	0.131*	0.142*	0.084*	-0.075*	0.054*	-0.016	0.090*	-0.100*	1.000		
23	Sales Growth	0.019	-0.040	-0.046*	0.078*	0.002	-0.013	-0.021	-0.009	0.244*	-0.205*	1.000	
24	Leverage	-0.036	-0.015	-0.168*	0.070*	0.022	-0.004	0.004	0.009	0.291*	-0.182*	0.049*	1.000

### 4.6.3 Multivariate Analysis

#### ***4.6.3.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Firm Performance***

In respect to the hypotheses,  $H_{a1}$  and  $H_{a2}$ , this section investigates the impact of ownership concentration and the presence of dominant shareholders on firm performance. The fixed-effect models were applied according to Models 4.1 and 4.2, as discussed in Section 4.3.

From Model 4.1, Table 4.8 reports the results of the multivariate regressions of the ROA and Quasi-q samples, respectively. The coefficient of Concentrated Own has positive relationships with both the ROA and Quasi-q at 10% and 1% levels of significance, respectively. In other words, for a given firm, as levels of ownership varies over time by one unit, the ROA (Quasi-q) increases by 0.050 (0.504) units. The evidence supports the notion of an alignment effect ( $H_{a1}$ ) and suggests that the motivation of the largest shareholders to monitor managers increases as their proportion of shares increases.

However, Model 4.2, Table 4.8, shows that the coefficient of D\_Dominant is positively related only to Quasi-q at the 5% level of significance. The evidence also supports the alignment effect ( $H_{a2}$ ) and suggests that firms with dominant shareholders have superior to firms without dominant shareholders, in terms of market performance. It may also imply that the existence of a dominant shareholder could be a substitute for governance, where legal protection is claimed to be weak (Denis and McConnell, 2003). While the evidence does not provide strong evidence for the benefit of dominant shareholders in terms of accounting performance, at least there is no evidence of exploitation by dominant shareholders.

This evidence does not support the World Bank's (1998) claims regarding the poor structure of high ownership concentration but it is consistent with much of the research from outside the US, which reports a positive effect of ownership concentration and the presence of dominant shareholders on firm performance (for examples, see Claessens

and Djankov, 1999; Haniffa and Hudaib, 2006; Lins, 2003; Morck et al., 2000). In Thailand, the findings of this chapter are consistent with Wiwattanakantang (2001) and Yammeesri (2003), which report a superior performance of firms with the presence of dominant shareholders in Thailand.

Furthermore, the evidence contradicts research from the US that suggests no significant role for blockholders as a mechanism for monitoring managers (for examples, see Holderness and Sheehan, 1988; McConnell and Servaes, 1990; Mehran, 1995). Likewise, in Thailand, Limpaphayom (2001) did not find any relationship between blockholders and firm performance.

For control variables, the results estimated from Models 4.1 and 4.2 are consistent. Therefore, the main analysis discussed here is based on the results estimated from Model 4.1.

Regarding CV, the coefficient of CV is positive but not significant to both the ROA and Quasi-q as shown in Table 4.8. This implies that on average the use of pyramidal and cross-shareholding in Thai listed firms does not significantly harm them. This evidence, however, contradicts some research, which found a significant negative relationship between dominant shareholders and market performance when voting rights exceeded cash-flow rights (for example, see Edwards and Weichenrieder, 2004).

Regarding other control variables, it appears that the difference in shareholding between the largest shareholders and the second largest shareholders does matter in the Quasi-q model. In fact, this study found a negative relationship between the ratio of the share difference and both the ROA and Quasi-q. However, the negative relationship is only statistically significant to Quasi-q.

The evidence shows that firms derive some benefit from their second largest shareholders when the proportions of shares they own are similar to those of the largest shareholders, indicating an alignment effect and suggesting that they have more power and motivation to monitor managers and to check and balance the control of the largest

shareholders. The significant relationship, which appears only in the Quasi-q regression, may imply that investors view the presence of a second large shareholder as a mechanism to govern exploitation by the dominant shareholders. This evidence is also consistent with Edwards and Weichenrieder's (2004) findings, which report that a second largest shareholder with more cash-flow rights contributes to firms in terms of monitoring.

Regarding board structure, this study found a negative, significant relationship between board size and ROA. However, the coefficient of board size is negative but not significant to Quasi-q. This evidence suggests that oversized boards may have reduced efficiency, leading to poorer firm performance, which is consistent with other evidence from existing literature (Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996).

Firm size and firm growth are positively related to the ROA at the 1% level of significance. The positive effects may indicate the benefits that larger firms can gain from economies of scale, which provide easy access to internal or external funding (Short and Keasey, 1999). However, firm size is negatively related to Quasi-q at the 1% level of significance. This suggests that the performance of larger firms was worse than that of smaller firms. This is consistent with Lang and Stulz's (1994) findings, which suggest that larger firms tend to diversify their business, reducing firm performance. In addition, the negative effect may imply that investors expect more future growth and profitability from smaller firms than from larger firms.

Leverage is negatively related to the ROA at the 1% level of significance. However, it is positively related to Quasi-q at the 1% level of significance. The evidence from the ROA sample supports the expectation of a conflict of interests between lenders and firms. Lenders may intervene in management decisions in order to protect their benefits (to secure a loan repayment, for example, and this may lead to inefficient investment decisions and thereby reduce firm performance. However, the positive effect noted on Quasi-q may imply that investors view leverage as a mechanism to limit managers' discretion (on the inefficient use of large free cash flows, for example) (Jensen, 1986).



Nevertheless, the contradictory results between ROA and Quasi-q will be further investigated in Chapters 5 and 6.

**Table: 4.8 The Impact of Ownership Concentration and the Impact of the Presence of Dominant Shareholders on Firm Performance**

The table shows the results of firm-fixed effects regression to investigate an impact of ownership concentration (Model 4.1) and the presence of dominant shareholders (Model 4.2) on firm performance (ROA and Quasi-q) from 1994 to 2007. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Model 4.1:**  $FM_{it} = \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size}_{it} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} + \alpha_{i1} \text{Firm fixed effect} + \alpha_{i2} \text{Year fixed effect} + \varepsilon_{it}$

**Model 4.2:**  $FM_{it} = \beta_0 + \beta_1 \text{D\_Dominant}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_4 \text{Board Size}_{it} + \gamma_3 \text{Board Independence}_{it} + \gamma_4 \text{Board Experience}_{it} + \gamma_5 \text{CEO Founder}_{it} + \gamma_6 \text{CEO Descendant}_{it} + \gamma_7 \text{CEO-Chair}_{it} + \gamma_8 \text{CEO-Group}_{it} + \gamma_9 \text{Firm Size}_{it} + \gamma_{10} \text{Firm Age}_{it} + \gamma_{11} \text{Firm Growth}_{it} + \gamma_{12} \text{Leverage}_{it} + \alpha_{i1} \text{Firm fixed effect} + \alpha_{i2} \text{Year fixed effect} + \varepsilon_{it}$

Explanatory Variables	Model 4.1				Model 4.2			
	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t
Concentrated Own	0.050*	(1.77)	0.504***	(3.00)				
D_Dominant					0.006	(0.74)	0.114**	(2.15)
Share Difference	-0.004	(-0.29)	-0.204**	(-2.06)	0.011	(0.87)	-0.085	(-0.95)
CV	0.014	(0.99)	0.045	(0.42)	0.012	(0.85)	0.028	(0.27)
Board Size	-0.042***	(-3.61)	-0.008	(-0.11)	-0.044***	(-3.76)	-0.027	(-0.37)
Board Independence	0.027	(1.41)	-0.04	(-0.39)	0.026	(1.36)	-0.045	(-0.44)
Board Experience	-0.01	(-0.55)	-0.088	(-0.78)	-0.009	(-0.49)	-0.083	(-0.74)
CEO Founder	0.014	(1.08)	-0.073	(-0.94)	0.014	(1.06)	-0.079	(-1.01)
CEO Descendant	-0.001	(-0.05)	0.078	(0.69)	0.000	(-0.01)	0.084	(0.72)
CEO-Chair	0.007	(0.49)	0.095	(1.34)	0.007	(0.46)	0.089	(1.27)
CEO-Group	0.020	(1.45)	0.001	(0.01)	0.021	(1.50)	0.005	(0.06)
Firm Size	0.041***	(6.09)	-0.128***	(-2.72)	0.040***	(5.97)	-0.135***	(-2.93)
Firm Age	0.038	(1.41)	-0.153	(-1.04)	0.033	(1.24)	-0.195	(-1.33)
Firm Growth	0.030***	(4.18)	0.130***	(3.57)	0.030***	(4.22)	0.135***	(3.76)
Leverage	-0.235***	(-14.93)	0.294***	(3.51)	-0.236***	(-14.84)	0.288***	(3.44)
Constant	-0.435***	(-3.41)	3.594***	(4.09)	-0.402***	(-3.16)	3.905***	(4.56)
Firm-Fixed Effects	Yes		Yes		Yes		Yes	
Year-Fixed Effects	Yes		Yes		Yes		Yes	
No. of Obs.	3,998		3,997		3,998		3,997	
Number of Clusters	441		441		441		441	
Adj. R-square	0.251		0.182		0.250		0.179	
F-test	20.179		19.850		19.908		19.645	
P-value	0.000		0.000		0.000		0.000	

#### ***4.6.3.2 The Impact of Ownership Concentration, by Type, and the Presence of Dominant Shareholders, by Type, on Firm Performance***

In respect to the hypotheses,  $H_{a3}$  and  $H_{a4}$ , this section investigates the impact of ownership concentration, classified by shareholder type, and the presence of dominant shareholders, by their types, on firm performance. The fixed-effect models were applied according to Models 4.3 and 4.4, as discussed in Section 4.3.

In respect to Model 4.3, Table 4.9, reports the results of the multivariate regression of the ROA and Quasi-q samples. Only the coefficient of Family Own is positively related to both the ROA and Quasi-q at 5% and 1% levels of significance, respectively. In other words, for a given firm, as the level ownership held by the largest shareholder who is family varied over time by one unit, the ROA (Quasi-q) increased by 0.060 (0.515) units. This evidence supports the notion of an alignment effect ( $H_{a3}$ ), which suggests that the interests of the largest family shareholder will be more aligned with those of the firm and other shareholders as his/her proportion of shares increases.

However, the results estimated from Model 4.4 show that the coefficient of D\_Family Own is positively related only to Quasi-q, at the 5% level of significance. This evidence supports the alignment effect ( $H_{a4}$ ) and suggests that the presence of dominant family shareholders does benefit listed firms in terms of market performance. This may imply that investors view the existence of dominant family shareholders as a substitute for governance in firms where legal protection is claimed to be weak (Denis and McConnell, 2003) even though firms with or without the presence of a dominant family shareholder did not differ in terms of accounting performance. Nevertheless, while the evidence does not strongly support the prediction of a benefit from dominant family shareholders, in terms of accounting performance, there is no evidence of exploitation by them.

This evidence contradicts the World Bank's (1998) view that a high concentration of ownership, especially by families, is a weak corporate structure in Thailand. The evidence in this study reveals that, at least, firms are not harmed by the presence of

dominant family shareholders. The evidence is consistent with a series of studies that suggest the superior performance of firms with dominant family shareholders (for examples, see Anderson and Reeb, 2003; Asaba and Kunugita, 2007; King and Santor, 2008; Martínez et al., 2007; Suehiro, 2001; Wiwattanakantang, 2001; Yammesri et al., 2006).

Regarding other types of dominant shareholder, Model 4.4 shows that the coefficient of *D\_Non-Bank Financial Institutions* is positively related only to ROA, at the 10% level of significance. The evidence supports the alignment effect ( $H_{a12}$ ) and suggests that firms with a presence of dominant shareholders who are non-bank financial institutional investors had superior performance over firms without it, in terms of accounting performance. They did benefit from having non-bank financial institutional investors and this may be, for example, in terms of monitoring, as the investors held blocks of shares (Cornett et al., 2007). The evidence is consistent with the findings of other studies such as Seifert et al. (2005), Bhattacharya and Graham (2007) and Gorton and Schmid (2000).

For control variables, the results estimated from Models 4.3 and 4.4 are consistent. Therefore, the main analysis discussed here is based on the results estimated from Model 4.3.

This study found no evidence that the use of pyramidal and cross-shareholding structures destroys firm performance. In fact, the coefficient of CV is positively but not significantly related to the ROA and Quasi-q. Again, the difference between the shareholdings of the largest and the second largest shareholders does matter in the Quasi-q model, implying that investors had a positive view of the role of the second largest shareholders in listed firms. For control variables, most of the results are consistent with the previous model, discussed in Section 4.6.3.2.

**Table: 4.9 The Impact of Ownership Concentration Classified by Shareholders' Types and the Presence of Dominant Shareholders Classified by their Types on Firm Performance**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration by shareholders' types and the presence of dominant shareholders by their types on firm performance (ROA and Quasi-q) from 1994 to 2007. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Model 4.3:**  $FM_{it} = \beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} + \beta_3 \text{Foreign Investors Own}_{it} + \beta_4 \text{Domestic Companies Own}_{it} + \beta_5 \text{Bank Own}_{it} + \beta_6 \text{Non-Bank Financial Institutions Own}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size}_{it} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} + \alpha_{i1} \text{Firm fixed effect} + \alpha_{i2} \text{Year fixed effect} + \epsilon_{it}$

**Model 4.4:**  $FM_{it} = \beta_0 + \beta_1 D\_Family_{it} + \beta_2 D\_Government_{it} + \beta_3 D\_Foreign Investors_{it} + \beta_4 D\_Domestic Companies_{it} + \beta_5 D\_Bank_{it} + \beta_6 D\_Non-Bank Financial Institutions_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size}_{it} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} + \alpha_{i1} \text{Firm fixed effect} + \alpha_{i2} \text{Year fixed effect} + \epsilon_{it}$

Explanatory Variables	Model 4.3				Model 4.4			
	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t
Family Own	0.060**	(2.57)	0.515***	(3.61)				
Government Own	-0.021	(-0.26)	1.122	(1.23)				
Foreign Investor Own	0.044	(1.28)	-0.004	(-0.02)				
Domestic Company	0.029	(0.66)	0.307	(1.17)				
Bank Own	0.027	(0.22)	-0.98	(-1.41)				
Non-Bank Financial Institutions Own	0.078	(1.16)	-0.156	(-0.30)				
D_Family					0.006	(0.74)	0.130**	(2.23)
D_Government					0.010	(0.44)	0.484	(1.58)
D_Foreign Investor					0.005	(0.35)	0.055	(0.73)
D_Domestic company					-0.011	(-0.56)	-0.048	(-0.48)
D_Bank					0.027	(0.84)	0.018	(0.16)
D_Non-Bank Financial Institutions					0.029*	(1.95)	0.176	(1.32)
Share Difference	0.002	(0.13)	-0.174**	(-1.97)	0.011	(0.83)	-0.088	(-0.98)
CV	0.015	(1.01)	0.1	(0.92)	0.008	(0.55)	0.026	(0.22)
Board Size	-0.042***	(-3.62)	-0.018	(-0.25)	-0.044***	(-3.69)	-0.025	(-0.34)
Board Independence	0.028	(1.50)	-0.024	(-0.25)	0.024	(1.26)	-0.049	(-0.49)
Board Experience	-0.011	(-0.59)	-0.109	(-0.98)	-0.009	(-0.49)	-0.102	(-0.91)
CEO Founder	0.014	(1.12)	-0.074	(-0.94)	0.013	(1.00)	-0.075	(-0.94)
CEO Descendant	-0.002	(-0.13)	0.072	(0.64)	0.000	(-0.02)	0.082	(0.71)
CEO-Chair	0.007	(0.48)	0.074	(1.04)	0.007	(0.47)	0.076	(1.11)
CEO-Group	0.021	(1.52)	0.0001	(0.00)	0.020	(1.43)	0.006	(0.07)

(This table is continued on the next page)

**Table: 4.9 The Impact of Ownership Concentration Classified by Shareholders' Types and the Presence of Dominant Shareholders Classified by their Types on Firm Performance (Cont')**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration by shareholders' types and the presence of dominant shareholders by their types on firm performance (ROA and Quasi-q) from 1994 to 2007. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 4.3				Model 4.4			
	ROA	<i>t</i>	Quasi-q	<i>t</i>	ROA	<i>t</i>	Quasi-q	<i>t</i>
Firm Size	0.040***	(5.94)	-0.130***	(-2.84)	0.040***	(6.00)	-0.136***	(-2.97)
Firm Age	0.038	(1.45)	-0.129	(-0.89)	0.033	(1.23)	-0.199	(-1.36)
Firm Growth	0.030***	(4.31)	0.130***	(3.65)	0.030***	(4.17)	0.133***	(3.72)
Leverage	-0.235***	(-15.0)	0.277***	(3.27)	-0.235***	(-14.8)	0.287***	(3.43)
Constant	-0.443***	(-3.55)	3.552***	(4.20)	-0.401***	(-3.19)	3.923***	(4.60)
Firm-Fixed Effects	Yes		Yes		Yes		Yes	
Year-Fixed Effects	Yes		Yes		Yes		Yes	
No. of Obs.	3,998		3,997		3,998		3,997	
Number of Clusters	441		441		441		441	
Adj. R-square	0.253		0.187		0.250		0.182	
F-test	17.433		17.234		17.132		17.087	
P-value	0.000		0.000		0.000		0.000	

#### 4.6.3.3 The Impact of Managerial Ownership on Firm Performance

In respect to the fifth set of the hypotheses, this section aims to investigate the impact of managerial ownership on firm performance. The fixed-effects model is applied according to Model 4.5, as discussed in Section 4.3.

Table 4.10 reports the result of the multivariate regressions of the ROA and the Quasi-q sample. The results show that the coefficients of Manager Own are positively related to the ROA and Quasi-q at the 5% and 1% levels of significance, respectively. In other words, for a given firm, as managerial ownership varies over time by one unit, the ROA (Quasi-q) increases by 0.034 (0.398) units. This supports the prediction of an alignment effect ( $H_{a13}$ ) for the period studied, suggesting that the interests of managers were more aligned to value maximisation as their proportion of shares increased. The evidence is also consistent with the findings of existing research, which has found the alignment effect in some levels of managerial ownership (Anderson and Reeb, 2003; Bhabra, 2007; Chen et al., 2003; Hu and Zhou, 2008; McConnell and Servaes, 1990; Maury, 2006;

Morck et al., 1988; Short and Keasey, 1999). However, while it is consistent with the findings of Yammesri (2003), it is inconsistent with Wiwattanakantang (2001), who found a negative relationship between dominant shareholders and firm performance in Thailand, when dominant shareholders were involved in management.

According to the definition discussed in Section 4.4.2, managerial ownership in the above regression includes all of a board's ownership. Morck et al. (1988) argue that the ownership of executive and non-executive directors might have different impacts on firm performance. While ownership by non-executive directors<sup>51</sup> may increase their motivation to supervise management, ownership by executive directors may increase their opportunities to become entrenched because they might be able to avoid market disciplines such as the labour market and market for corporate control.

This study redefined managerial ownership to include only the percentage of shares owned by executive directors. The results for the ROA and Quasi-q samples are shown in Table 4.10 and indicate an insignificant, positive relationship between executive ownership and both measurements of firm performance (ROA and Quasi-q). Therefore, the results are inconsistent with those obtained using all board ownership, discussed above. The evidence suggests that levels of share ownership by executive directors themselves did not have any significant impact on firm performance.

Overall, the evidence suggests that ownership has helped to increase motivation of directors to perform their duty. However, share ownership might be less efficient to align interests of management with other shareholders. Nevertheless, it is likely to increase the motivation of in particular, non-executive directors to supervise managers.

In Thailand, it is normal for executive directors who are also dominant shareholders to be members of the founding family. The evidence from Section 4.6.2.2 also suggests that on average, executive directors of firms with dominant shareholders owned shares less than executive directors of firms without dominant shareholders.

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<sup>51</sup> Non-executive directors might not be motivated to put their time and effort into monitoring executive officers. They may also be easily dominated by influential officers. Therefore, without any financial interests (blocks of ownership), their motivation to supervise management efficiently may be reduced.

Therefore, it may imply that firms with dominant shareholders do not intend to use managerial ownership for the express purpose of aligning executives' interests with those of other shareholders. However, dominant shareholders may intend to have a representative to control the firm by acting as management.

**Table: 4.10 An Impact of Managerial Ownership on Firm Performance**

The table shows the results of firm-fixed effects regression to investigate an impact of managerial ownership on firm performance (ROA and Quasi-q) from 1994 to 2007. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

$$\begin{aligned} \text{Model 4.5: } FM_{it} = & \beta_0 + \beta_1 \text{Manager Own}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} \\ & + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} \\ & + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size}_{it} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} \\ & + \alpha_{it} \text{Firm fixed effect} + \alpha_{it2} \text{Year fixed effect} + \varepsilon_{it} \end{aligned}$$

Explanatory Variables	All Directors				Only Executive Directors			
	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t
Manager Own	0.034**	(2.08)	0.398***	(3.72)	0.007	(0.36)	0.135	(1.04)
Share Difference	0.008	(0.70)	-0.087	(-1.05)	0.015	(1.22)	-0.017	(-0.21)
CV	0.011	(0.77)	0.009	(0.08)	0.011	(0.82)	0.017	(0.16)
Board Size	-0.046***	(-3.91)	-0.046	(-0.64)	-0.044***	(-3.74)	-0.022	(-0.30)
Board Independence	0.026	(1.40)	-0.048	(-0.49)	0.025	(1.33)	-0.062	(-0.62)
Board Experience	-0.009	(-0.51)	-0.082	(-0.76)	-0.008	(-0.45)	-0.067	(-0.61)
CEO Founder	0.012	(0.90)	-0.101	(-1.27)	0.013	(1.03)	-0.086	(-1.13)
CEO Descendant	-0.003	(-0.14)	0.057	(0.51)	-0.001	(-0.03)	0.077	(0.67)
CEO-Chair	0.006	(0.40)	0.077	(1.12)	0.007	(0.48)	0.096	(1.35)
CEO-Group	0.02	(1.44)	0.0002	(0.00)	0.021	(1.52)	0.012	(0.15)
Firm Size	0.040***	(5.90)	-0.140***	(-3.16)	0.040***	(6.00)	-0.135***	(-2.93)
Firm Age	0.039	(1.49)	-0.128	(-0.89)	0.033	(1.22)	-0.207	(-1.43)
Firm Growth	0.030***	(4.26)	0.135***	(3.80)	0.030***	(4.22)	0.134***	(3.78)
Leverage	-0.236***	(-)	0.286***	(3.42)	-0.236***	(-)	0.289***	(3.42)
Constant	-0.411***	(-3.31)	3.815***	(4.64)	-0.399***	(-3.16)	3.965***	(4.69)
Firm-Fixed Effects	Yes		Yes		Yes		Yes	
Year-Fixed Effects	Yes		Yes		Yes		Yes	
No. of Obs.	3,998		3,997		3,998		3,997	
Number of Clusters	441		441		441		441	
Adj. R-square	0.257		0.19		0.250		0.176	
F-test	20.554		19.19		19.913		20.347	
P-value	0.000		0.000		0.000		0.000	

#### ***4.6.3.4 The Corporate Governance Reforms***

In respect to the hypotheses,  $H_{a1}$  to  $H_{a13}$ , this section separately investigates the impact of ownership structure on firm performance before and after corporate governance reform. Model 4.1 to Model 4.5 were re-examined for pre- reform period (1994 – 1998) and post- reform period (2000 – 2007).

In respect to the hypotheses,  $H_{a14}$  to  $H_{a26}$ , the test for equality of coefficients in pre-and post-reform periods is performed using the dummy variables approach discussed in Section 4.3.1. Only the incremental effects and the Wald test (F-statistic) from Model 4.6 to 4.10 are reported.

##### ***4.6.3.4.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Firm Performance***

In respect to Models 4.1 and 4.2, Panels A and B, in Table 4.11, show the results of the multivariate regressions of ownership concentration on firm performance before and after the corporate governance reforms, respectively.

For accounting performance, the results in Panel A show that the coefficient of Concentrated Own is positively related to ROA, at the 5% level of significance, only after the reforms. Regarding market performance, Panel B shows that the coefficients of Concentrated Own are significantly and positively related to Quasi-q for both sub-periods.

No significant impact is observed on accounting performance from the presence of dominant shareholders in both sub-periods, as shown in Panel A. In contrast, it has a significant positive relationship to Quasi-q in both sub-periods, as shown in Panel B. This evidence may imply that while the presence of a dominant shareholder did not contribute to accounting performance in both sub-periods, it enhanced market performance before and after the reforms.



Regarding the equality test ( $H_{a14}$ ,  $H_{a15}$ ), the incremental effects of ownership concentration and the presence of a dominant shareholder in the post-reform period (Model 4.6 and Model 4.7) are not statistically significant. In addition, the Wald test shows that the coefficients of Concentrated Own and D\_dominant in the pre-reform and the post-reform periods are not significantly different.

Overall, the evidence in this section supports the notion of an alignment of interests ( $H_{a1}$ ,  $H_{a2}$ ), suggesting that the motivation for large shareholders to contribute to firms increased as their proportion of shares increased, regardless of whether they were dominant shareholders or not.

In addition, the higher levels of benefit to firms with dominant shareholders than to those without dominant shareholders seem to be strong only in terms of market performance in both periods. This suggests that investors may have been over-expectant of the performance of firms with dominant shareholders. No evidence suggests any exploitation by dominant shareholders in either period. Therefore, the evidence also does not fully support the view that having dominant shareholders was as inefficient as it was claimed to be by the World Bank (1998).

In contrast to the expectation, the evidence implies that ownership concentration/the presence of a dominant shareholder in the post-reform period do not significantly help to align interests of the largest shareholder/a dominant shareholder to their firms' interests more than they do in the pre-reform period.

For the control variables, the results estimated from Models 4.1 and 4.2, in Table 4.11, are mostly consistent. Therefore, the main analysis discussed here is based on the results estimated from Model 4.1.

Regarding other forms of corporate governance, this study found that CV shows a significant, positive impact on the ROA, only after the reforms. Regarding entrenchment effect, this evidence could imply that the ROA decreases as the CV decreases after the reform. Therefore, there was an evidence of exploitation by the largest shareholders

when control rights largely exceeded cash-flow rights after the reform. Consistent to Connelly et al. (2012), this could imply that the largest shareholders may be conveniently to use the pyramidal and cross-sectional structures for opportunistic purposes because it may be more difficult for them to extract the firms' assets in other channels since the reform.

This study found no significant relationship between the ratios of the difference in shareholding between the largest and the second largest shareholders and the ROA either before or after the reforms. This study found a negative relationship between the ratio and Quasi-q, but this is only significant after the reforms. The evidence suggests that, after the reforms, investors may have sought other governance mechanisms to reduce the power of the largest shareholders, as this was claimed to have contributed to the financial crisis. Hence investors may have attached higher value to firms with substantial second largest shareholders, after the reforms, anticipating the importance of their role in checking and balancing the behaviour of the largest shareholders. The findings also imply that when second largest shareholders hold a similar proportion of shares to that held by the largest shareholders they have more motivation and power to monitor firms.

The coefficient of Board size is significantly and negatively related to the ROA in both sub-periods. Regarding market performance, it appears that the coefficient of Board size has a significant negative relationship to Quasi-q only before the reforms. However, the negative effect disappears after the reforms. The evidence also shows a significant difference of coefficients of Board Size in the pre-reform and the post-reform periods and a significant improvement in the effect of board size on market performance in the post-period reform.

Overall, the evidence suggests that larger boards were less efficient in terms of both accounting and market performance. Nevertheless, the improvement in their effect on market performance after the reforms may imply that investors became more comfortable with larger boards as a result of the reforms. For example, they may have

expected the bigger boards to have higher proportions of independent directors after the reforms.

However, the results also show that the coefficient of Board independence has a significant positive relationship to the ROA only before the reforms. After the reforms, the relationship is still positive but not significant. Surprisingly, the positive impact of board independence on accounting performance is significantly reduced after the reforms. Since listed firms were required to have at least three independent directors after the reforms, this regulation increased the board size but may not have guaranteed that they were fully independent. In contrast to the findings on accounting performance, this study also found no significant relationship between board independence and market performance before or after the reforms.

Regarding CEO characteristics, the analysis shows that the coefficient of CEO Founder is negatively related to the ROA at the 5% level of significance only before the reforms. As suggested by the literature, CEO-founders may have special influence over firms that allows them to exercise control over the board of directors; they may select board members with whom they have a close relationship, for instance (Morck et al., 1988). This would make it difficult for a board to perform efficiently in terms of monitoring the CEO founder. Nevertheless, the negative effect significantly disappears after the reforms. This evidence, based on accounting performance, contradicts other research that reports superior performance when founders serve as CEOs (Anderson and Reeb, 2003; Villalonga and Amit, 2006).

In contrast to the results based on accounting performance, the coefficient of CEO Founder is positively related to Quasi-q at the 1% level of significance only before the reforms. Nevertheless, the significantly positive impacts of CEO founders on accounting and market performance largely disappear after the reforms. This may imply that better corporate governance partly replaced the role of CEO founders or limited their control over boards of directors.

Regarding the CEO-descendant variable, the results in Table 4.12, Panel A, show that it has a significant negative effect on the ROA after the reforms. This indicates that, after the reforms, accounting performance suffered when a CEO was a son/daughter of the founder and supports the notion that founders are likely to transfer a businesses to descendants, regardless of their competence (Anderson and Reeb, 2003; Bertrand et al., 2008; Mehrotra et al., 2013; Morck et al., 1988). However, the results from market performance reveal a significant positive impact of CEO descendants on Quasi-q only before the reforms. From an investor's point of view, before the reforms, they may have had more confidence to invest in firms controlled by families, if families were perceived to act as a substitute for weak systems of corporate governance.

Regarding the CEO-Chair variable, the results in Table 4.12, Panel A, show a significant negative effect of CEO-Chair on the ROA only after the reforms. This evidence is consistent with the view that joint positions may lead to inefficient boards, because they end up being controlled by the people who they are supposed to monitor (Fama and Jensen, 1983), thereby compromising their independence. This evidence supports Jensen's (1993) argument and the recommendation by the OECD (2004) to separate CEO and chairman positions in order to improve board efficiency. Nevertheless, the evidence contradicts the stewardship theory, which suggests that CEO duality is efficient. In addition, the findings are inconsistent with some existing research, which found superior performance in firms with CEO duality (for examples, see Boyd, 1995; Brickley et al., 1997; Dey et al., 2011).

The negative impact of CEO duality on accounting performance after the reforms may imply that the combination of the two key positions reduced the efficiency of other governance mechanisms, such as a board of directors, when it came to limiting exploitation by dominant shareholders (La Porta et al., 1999). However, this study found no significant impact of CEO duality on market performance in either sub-period.

When a CEO and chairman come from the same group, the results in Table 4.11, Panel A, show a significant positive relationship between CEO-Chair Group and the ROA both

before and after the reforms. Nevertheless, no significant improvement was found in this relationship after the reforms. For market performance, this study found a significant negative relationship between CEO-Chair Group and Quasi-q, as shown in Table 4.11, Panel B.

In terms of accounting performance, the evidence suggests that when the CEO and chairman came from the same group, firms benefitted from this structure. In fact, most firms in the sample had a chairman who was the father of the CEO. Typically, the CEO founder becomes a chairman after retirement, and his/her descendant becomes the CEO. It seems that this feature helps to reduce the conflict between chairmen and CEOs. In addition, the close relationship may offer benefits in terms of better communication (reducing asymmetric information), a better transfer of knowledge and better monitoring between fathers and their sons/daughters, which, in turn, enhances firm performance. However, this structure may also reduce investors' confidence, because of the risk of exploitation by families, and lead to a reduction in market performance.

Regarding leverage, the results in Table 4.11, Panel A, show a negative effect of leverage on the ROA, both before and after the reforms, at the 1% level of significance. Nevertheless, the negative impact significantly reduces after the reforms, suggesting that conflicts of interest between lenders and firms may also have been reduced. Regarding Quasi-q, the results in Table 4.11, Panel B, show a positive effect of leverage on Quasi-q at the 1% level of significance only before the reforms. This may imply that investors view the use of debt as a mechanism to govern exploitation by managers. However, experience from the 1997 financial crisis, which revealed some weaknesses of the financial system might challenge this expectation.

**Table: 4.11 An Impact of Ownership Concentration and the Presence of the Dominant Shareholders on Firm Performance before and after the Corporate Governance Reforms**

The table shows the results of firm-fixed effects regression to investigate an impact of ownership concentration and the presence of the dominant shareholders on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Panel A:		ROA										
Explanatory Variables	Model 4.1				Equality Test (Model 4.6)		Model 4.2				Equality Test (Model 4.7)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Concentrated Own	0.093	(1.58)	0.080**	(2.47)	-0.013	0.03						
D_Dominant							0.018	(1.37)	0.001	(0.17)	-0.017	0.98
Share Difference	-0.043	(-1.33)	-0.005	(-0.27)	0.038	0.87	-0.024	(-0.77)	0.021	(1.32)	0.045	1.57
CV	-0.023	(-0.67)	0.028*	(1.82)	0.051	1.71	-0.022	(-0.65)	0.021	(1.41)	0.043	1.27
Board Size	-0.042**	(-2.16)	-0.044***	(-2.71)	-0.002	0.01	-0.040**	(-2.10)	-0.044***	(-2.69)	-0.004	0.02
Board Independence	0.114***	(2.69)	0.021	(1.07)	-0.093*	3.57*	0.111***	(2.60)	0.020	(1.05)	-0.091*	3.34*
Board Experience	-0.019	(-0.47)	0.014	(0.68)	0.033	0.54	-0.019	(-0.47)	0.018	(0.83)	0.037	0.67
CEO Founder	-0.034*	(-1.68)	0.022	(1.02)	0.056*	3.43*	-0.034	(-1.63)	0.022	(1.00)	0.056*	3.25*
CEO Descendant	0.044	(1.10)	-0.037*	(-1.72)	-0.081*	3.07*	0.042	(0.98)	-0.036*	(-1.68)	-0.078	2.55
CEO-Chair	0.022	(0.97)	-0.031**	(-2.26)	-0.053*	3.44*	0.022	(0.92)	-0.029**	(-2.10)	-0.051*	3.03*
CEO-Group	0.075**	(2.49)	0.037***	(2.73)	-0.038	1.33	0.077**	(2.38)	0.038***	(2.86)	-0.039	1.23
Firm Size	0.087***	(6.49)	0.037***	(3.58)	-0.05***	8.20***	0.087***	(6.41)	0.035***	(3.41)	-0.052***	8.91***
Firm Age	-0.025	(-0.62)	-0.103***	(-4.28)	-0.078	2.22	-0.019	(-0.46)	-0.100***	(-4.16)	-0.081	2.43
Firm Growth	0.021	(1.33)	0.041***	(4.51)	0.02	1.11	0.023	(1.44)	0.043***	(4.54)	0.020	1.03
Leverage	-0.294***	(-12.69)	-0.229***	(-10.77)	0.065**	3.99**	-0.295***	(-12.65)	-0.226***	(-10.45)	0.069**	4.52**
Constant	-0.900***	(-5.25)	-0.029	(-0.20)			-0.907***	(-5.26)	0.015	(0.11)		
Firm-Fixed Effects	Yes		Yes				Yes		Yes			
No. of Obs.	1,462		2,257				1,462		2,257			
Number of Clusters	331		375				331		375			
Adj. R-square	0.334		0.214				0.333		0.210			
F-test	17.331		13.117				17.173		12.291			
P-value	0.000		0.000				0.000		0.000			

**Table: 4.11 An Impact of Ownership Concentration and the Presence of the Dominant Shareholders on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of firm-fixed effects regression to investigate an impact of ownership concentration and the presence of the dominant shareholders on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period (Post  $\times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Panel B:		Quasi-q										
Explanatory Variables	Model 4.1				Equality Test (Model 4.6)		Model 4.2				Equality Test (Model 4.7)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Concentrated Own	0.548*	(1.80)	0.596**	(2.51)	0.048	0.02						
D_Dominant							0.171**	(2.27)	0.101*	(1.78)	-0.070	0.53
Share Difference	-0.179	(-1.09)	-0.334**	(-2.24)	-0.155	0.46	-0.110	(-0.56)	-0.182*	(-1.67)	-0.072	0.10
CV	0.245	(1.27)	0.049	(0.57)	-0.196	0.78	0.246	(1.27)	0.012	(0.14)	-0.234	1.07
Board Size	-0.382***	(-3.96)	0.005	(0.06)	0.387***	7.01***	-0.377***	(-3.76)	0.005	(0.05)	0.382***	6.50***
Board Independence	-0.284	(-1.14)	0.004	(0.04)	0.288	1.04	-0.304	(-1.23)	0.013	(0.11)	0.317	1.26
Board Experience	-0.287	(-1.19)	0.023	(0.16)	0.310	1.15	-0.296	(-1.24)	0.029	(0.19)	0.325	1.27
CEO Founder	0.173*	(1.69)	-0.153	(-1.13)	-0.326*	3.49*	0.175*	(1.65)	-0.161	(-1.18)	-0.336*	3.57*
CEO Descendant	0.476**	(2.03)	0.053	(0.42)	-0.423	2.30	0.475*	(1.84)	0.057	(0.46)	-0.418	1.94
CEO-Chair	-0.040	(-0.40)	-0.086	(-1.34)	-0.046	0.14	-0.054	(-0.54)	-0.079	(-1.19)	-0.025	0.04
CEO-Group	-0.596***	(-3.21)	0.043	(0.58)	0.639***	9.27***	-0.584***	(-2.91)	0.048	(0.63)	0.632***	7.92***
Firm Size	-0.608***	(-6.98)	-0.061	(-0.83)	0.547***	22.18***	-0.606***	(-7.01)	-0.074	(-1.00)	0.532***	20.79***
Firm Age	-1.461***	(-7.49)	0.593***	(4.19)	2.054***	59.46***	-1.434***	(-7.54)	0.617***	(4.27)	2.051***	59.12***
Firm Growth	0.103*	(1.85)	0.143***	(2.93)	0.040	0.27	0.112**	(2.03)	0.148***	(3.00)	0.036	0.22
Leverage	0.426***	(4.18)	-0.004	(-0.04)	-0.430***	6.90***	0.417***	(4.07)	0.017	(0.14)	-0.400**	5.85**
Constant	14.826***	(12.17)	0.132	(0.13)			14.758***	(12.09)	0.345	(0.34)		
Firm-Fixed Effects	Yes		Yes				Yes		Yes			
No. of Obs.	1,461		2,257				1,461		2,257			
Number of Clusters	331		375				331		375			
Adj. R-square	0.376		0.045				0.377		0.039			
F-test	22.550		3.328				22.600		3.141			
P-value	0.000		0.000				0.000		0.000			

#### ***4.6.3.4.2 The Impact of Ownership Concentration, Classified by Shareholder Type, and the Presence of a Dominant Shareholder, by Type, on Firm Performance***

In respect to Model 4.3, Panels A and B, in Table 4.12, show the results of the multivariate regressions of ownership concentration, classified by shareholder type, on firm performance before and after the corporate governance reforms.

Regarding ownership concentration by the largest shareholders who are family, the results in Panels A and B show that the coefficients of Family Own are positively related to the ROA and Quasi-q at 5% levels of significance before and after the reforms.

Regarding the equality test ( $H_{a16}$ ), the incremental effects of family block ownership on accounting and market performance are not statistically significant in post-reform period. In addition, the Wald test suggests that the coefficients of Family Own in pre-reform and post-reform periods are not significantly different.

The evidence confirms the findings from the previous sections in suggesting that the motivation of these shareholders was more aligned with firms' interests as their proportion of shares increased. In contrast to the expectation, the family block ownership in the post-reform period does not significantly help to align interests of the largest shareholder who is family to the firms more than it does in the pre-reform period.

Regarding the Government Own variable, the results in Panels A and B show that the coefficients of Government Own are positively related to the ROA and Quasi-q at 1% levels of significance only before the reforms. No significant results are found after the reforms.

For the equality test ( $H_{a17}$ ), there are significantly negative incremental effects of government block ownership on accounting and market performance in the post-reform period. The Wald test also confirms that the impacts of government block ownership on firm performance in the pre-reform and the post-reform are significantly different.



Overall, the evidence suggests that high levels of share ownership may have improved the motivation of the largest government shareholders to align their interests with those of firms, enhancing firm performance, before the reforms. This evidence supports the notion that the Thai government's objective was close to value maximisation and is partly consistent with Wiwattanakantang (2001) and Sun et al. (2002). However, the evidence is inconsistent with the findings of Gao et al. (2008), who found that a reduction in the proportion of shares owned by the state contributed to firm performance in Chinese listed firms.

Although, no strong evidence of any exploitation by government is found, the alignment effect is likely to have disappeared after the reforms, in terms of both accounting and market performance. Since Thai political environments are not stable, this may affect their monitoring policies and/or reduce investor confidence in firms that are largely owned by government. In addition, an awareness of good corporate governance might increase the interest of the public and regulators in the scrutiny of listed firms and reduce the motivation of governments to participate in monitoring processes (Sun et al., 2002).

Regarding the Foreign Own variable, the results in Panel A show that the coefficients of Foreign Own are positively related to the ROA at the 10% level of significance, but only after the reforms. However, no significant effect was found regarding Quasi-q either before or after the reforms.

For the equality test ( $H_{a18}$ ), there are significantly positive incremental effects of foreign company block ownership only on accounting performance in the post-reform period. The Wald test also confirms that the impacts of foreign company block ownership on firm performance in the pre-reform and the post-reform are significantly different.

The evidence partly suggests that an increase in the levels of shares owned by the largest shareholders who are foreign company investors increased their motivation to align their interests with those of firms, in turn enhancing accounting performance.

According to the Brooker Group (2001), the role of foreign direct investment became more important in Thailand after the 1997 financial crisis because it was expected to help the Thai economy to recover from the recession. Consequently, many laws and regulations of foreign ownership became more liberalised after the crisis. For example, the Foreign Business Law<sup>52</sup> (1972) was amended in 1999 to be less restrictive to foreign ownership in many reserved<sup>53</sup> businesses, in order to encourage foreign ownership in manufacturing industries such as cement, pharmaceuticals and textiles (Brooker Group, 2002: 18). Since 1999, the Board of Investment (BOI) has relaxed some restrictions on foreign ownership and has launched incentive packages, such as corporate tax exemptions, in order to attract foreign investors, while limiting their investment to less than the capital investment. Therefore, as foreign ownership has increased after the reforms, foreign investors may have found it easier to exercise control over listed firms.

Consistent with the expectation, the foreign company block ownership in the post-reform period does significantly help to align interests of the largest shareholder who is family to the firms more than it does in the pre-reform period. This could imply that the corporate governance reform may help to motivate foreign company block investors to participate more in firms' monitoring process and increase their alignment of interests to their firms.

Regarding the Domestic Own variable, the results in Panels A and B show that the coefficients of Domestic Own are positively related to the ROA and Quasi-q at the 5% and 1% levels of significance, respectively, but only before the reforms. No significant effects were found on either of the measurements of performance after the reforms. The results support the notion of an alignment of interests between domestic company dominant shareholders in terms of both accounting and market performance prior to the reforms. There are significantly negative incremental effects of domestic company block ownership on accounting and market performance in the post-reform period. The Wald

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<sup>52</sup> The Foreign Business Law ("Alien Business Law") was enacted in 1972. Initially, the law allowed foreigners to do business in Thailand but with some limitation on foreign ownership. This aimed to reserve main business and specialised activities for Thai people in areas such as the banking sector, finance sector, law and accounting professions.

<sup>53</sup> See footnote 53.

test also confirms that the impacts of domestic company block ownership on firm performance in the pre-reform and the post-reform are significantly different. This could imply that the corporate governance reform might not be successful in aligning the interests of this type of the largest shareholders to the firms' interests.

Regarding the Bank Own variable, Table 4.12, Panel A, shows that there is no significant relationship between bank ownership and accounting performance either before or after the reforms. In terms of market performance, Panel B shows that the coefficient of Bank Own is negatively related to Quasi-q at the 1% level of significance before the reforms. Nevertheless, the coefficient of Bank Own is still negative but insignificant after the reform.

For the equality test ( $H_{a19}$ ), there is no significant incremental effect of the bank block ownership on firm performance in the post-reform period. The Wald test also shows the insignificant difference between the impacts of bank block ownership on firm performance in the pre-reform and the post-reform periods.

In fact, a close relationship between a bank and a family may have reduced the motivation and ability of the bank to engage in efficient monitoring before the reforms, and more efficient monitoring by banks after the reforms may have improved investor confidence in firms that were substantially owned by banks. Additionally, it appears that banks were more likely to become dominant shareholders after the reforms. This may imply that an increase in their proportion of shares motivated banks to participate in monitoring processes and/or reduced the conflict of interests between banks and firms (Limpaphayom and Polwitoon, 2004).

In contrast to the expectation, the bank block ownership in the post-reform period does not significantly help to align interests of the largest shareholder who is bank to the firms more than it does in the pre-reform period. Hence it could imply that the corporate governance reform might not have significant influence to reduce the conflicts of interests between the largest bank shareholder and firms.

However, this evidence is inconsistent with that of Limpaphayom and Polwitoon (2004), which suggests a positive relationship between bank ownership and market performance between 1990 and 1996. The different result may have been caused by a difference in the definition of bank ownership. While this study used the percentage of shares owned by the largest/dominant bank shareholders, Limpaphayom and Polwitoon (2004) included all the bank equity of the top ten shareholders.

In respect to Model 4.4, Panels A and B, in Table 4.12, show the results of the multivariate regressions of the existence of dominant shareholders, by their types, on firm performance before and after the corporate governance reforms.

Regarding Panel A in Table 4.12, there is no significant impacts of the presence of a dominant family shareholder on accounting performance in the pre-reform and the post reform periods. Nevertheless, Panel B, in Table 4.12, shows that the coefficient of  $D\_Family$  is positively related to Quasi-q, at the 1% level of significance after the reforms.

For the equality test ( $H_{a21}$ ), there is no significant incremental effect of the presence of a dominant family shareholder on firm performance in the post-reform period. The Wald test also shows that the impacts in the pre-reform and the post-reform periods are not significantly different.

Overall, the evidence suggests that, although families' interests were increasingly aligned with those of firms as their share ownership increased though the period of the study, the presence of dominant family shareholders may have also increased investor confidence, in light of factors such as family reputation or loyalty after the reform.

In contrast to the expectation, the presence of a dominant family shareholder in the post-reform period does not significantly help to align interests of the dominant family shareholders to the firms more than it does in the pre-reform period. This could imply that the corporate governance reform might not be successful in aligning the interests of the dominant family shareholders to their firms' interests.

The results in Panel A show that the coefficient of *D\_Non-Financial Institution Own* is positively related only to the ROA at the 1% level of significance, and only before the reforms. No significant results were found for *Quasi-q* in either period.

For the equality test ( $H_{a23}$ ), there are significantly negative incremental effects of the presence of a dominant non-bank financial institution shareholder on accounting performance in the post-reform period. The Wald test also confirms that there is a significant difference of the impacts of the presence of this type of dominant shareholder on firm performance in the pre-reform and the post-reform periods.

This evidence suggests that firms did benefit from having dominant shareholders who are non-bank financial institutional investors (in terms of monitoring, for example), but only before the reforms. In fact, many bank and non-bank financial institutions suffered from the financial crisis and were strictly regulated by the BOT following the reforms. This may have reduced their motivation to participate in the monitoring of the firms in which they had invested.

In contrast to the expectation, the non-bank financial institution block ownership in the post-reform period significantly reduces the alignment of interests between the largest shareholders who are non-bank financial institutions and firms more than it does in the pre-reform period. This could imply that the corporate governance reform might not be successful to motivate or might reduce the motivation of this type of the dominant shareholder to participate more in firms' monitoring process.

The coefficient of *D\_Domestic Company* is positively related to *Quasi-q* at the 1% level of significance but only before the reforms. This evidence suggests that the presence of a domestic company as a dominant shareholder only contributed to market performance before the reforms. Consistent with Model 4.3, there is significantly negative incremental effects of the presence of a dominant domestic company shareholder on market performance in post-reform period. The Wald test also confirms that the impacts in pre-reform and post-reform are significantly different. This could imply that the

reform might not be successful in aligning the interests of a dominant domestic company shareholder to the firms' interests.

For the control variables, the following analysis is mainly based on the estimation from Model 4.3. Regarding other control variables, it appears that the difference in shareholding between the largest shareholders and the second largest shareholders does matter in both the ROA and the Quasi-q models. Nevertheless, while this study found that the ratio of share difference has a significant negative effect on the ROA only before the reforms, it has a significant negative effect on Quasi-q only after the reforms. The evidence confirms the results in the previous sections, which suggest that listed firms did gain some benefits from their second largest shareholders when the proportions of shares they owned were similar to those of the largest shareholders.

The contradictory results between the ROA and Quasi-q samples may suggest that second largest shareholders were more likely to provide better monitoring before the reforms. This may have been because the system of corporate governance used to be weaker, and they have reduced their role in monitoring since it has improved.

However, the significant relationship in the Quasi-q sample after the reforms may also imply that investors viewed the presence of a substantial second largest shareholder as an effective corporate governance mechanism.

Regarding CV, the results from Model 4.4 shows that the CV has a significant positive effect on Quasi-q only before the reform. The significant effect largely disappeared after the reform. The evidence reveals some exploitation by the largest shareholder when the control right exceeded cash-flow rights in term of market performance before the reform.

Finally, the effect of other control variables before and after the reforms does not differ from those analysed in Section 4.6.3.4.2.

**Table: 4.12 An Impact of Ownership Concentration Classified by Shareholders' Types on Firm Performance and the Presence of Dominant Shareholders by their Types before and after the Corporate Governance Reforms**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration classified by the largest shareholder's types and the presence of the dominant shareholders by its types on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period (*Post* × variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Panel A:												
Explanatory Variables	ROA											
	Model 4.3				Equality Test (Model 4.8)		Model 4.4				Equality Test (Model 4.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test
Family Own	0.143**	(2.22)	0.053**	(2.02)	-0.090	1.58						
Government Own	0.512***	(2.92)	-0.032	(-0.35)	-0.544***	7.08***						
Foreign Investor Own	-0.090	(-1.24)	0.047*	(1.85)	0.137*	3.04						
Domestic company Own	0.133**	(2.35)	-0.016	(-0.31)	-0.149*	3.65						
Bank Own	-0.078	(-0.17)	0.079	(0.62)	0.157	0.11						
Non-Bank Financial insti.	0.088	(0.84)	0.032	(0.36)	-0.056	0.16						
D_Family							0.017	(1.10)	0.001	(0.16)	-0.016	0.69
D_Government												
D_Foreign Investor							-0.009	(-0.52)	0.002	(-0.69)	0.011	0.21
D_Domestic company							0.030	(1.07)	-0.015	(-0.40)	-0.045	1.49
D_Bank												
D_Non-Bank Financial							0.058***	(4.03)	-0.006	(1.13)	-0.064***	8.14***
Share Difference	-0.052*	(-1.70)	0.012	(0.73)	0.064*	2.98*	-0.027	(-0.85)	0.021	(-2.65)	0.048	1.66
CV	-0.010	(-0.30)	0.018	(1.17)	0.028	0.54	-0.017	(-0.51)	0.018	(1.05)	0.035	0.81
Board Size	-0.040**	(-2.07)	-0.044***	(-2.64)	-0.004	0.02	-0.040**	(-2.09)	-0.043***	(0.81)	-0.003	0.02
Board Independence	0.117***	(2.75)	0.022	(1.12)	-0.095*	3.70*	0.110**	(2.58)	0.020	(0.99)	-0.090*	3.25*
Board Experience	-0.019	(-0.46)	0.013	(0.60)	0.032	0.49	-0.020	(-0.50)	0.017	(-1.70)	0.037	0.69
CEO Founder	-0.037*	(-1.75)	0.021	(0.97)	0.058*	3.50*	-0.034	(-1.59)	0.021	(-2.07)	0.055*	3.14*
CEO Descendant	0.042	(1.14)	-0.039*	(-1.78)	-0.081*	3.39*	0.042	(0.98)	-0.037*	(2.85)	-0.079	2.56
CEO-Chair	0.020	(0.85)	-0.030**	(-2.19)	-0.05*	3.00*	0.021	(0.87)	-0.029**	(3.37)	-0.050*	2.82*
CEO-Group	0.075***	(2.61)	0.038***	(2.77)	-0.037	1.36	0.077**	(2.37)	0.038***	(-4.06)	-0.039	1.21

(This table is continued on the next page)

**Table: 4.12 An Impact of Ownership Concentration Classified by Shareholders' Types on Firm Performance and the Presence of Dominant Shareholders by their Types before and after the Corporate Governance Reforms (Cont')**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration classified by the largest shareholder's types and the presence of the dominant shareholders by its types on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Panel A: (Cont')				ROA								
Explanatory Variables	Model 4.3				Equality Test (Model 4.8)		Model 4.4				Equality Test (Model 4.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test
Firm Size	0.088***	(6.58)	0.035***	(3.36)	-0.053***	9.08***	0.087***	(6.40)	0.035***	(4.53)	-0.052***	9.05***
Firm Age	-0.026	(-0.65)	-0.096***	(-3.94)	-0.070	1.86	-0.017	(-0.42)	-0.099***	(-10.58)	-0.082	2.41
Firm Growth	0.020	(1.24)	0.042***	(4.54)	0.022	1.29	0.023	(1.44)	0.043***	(0.12)	0.02	1.02
Leverage	-0.296***	(-12.65)	-0.227***	(-10.81)	0.069**	4.59**	-0.296***	(-12.63)	-0.225***	(-10.58)	0.071***	4.79***
Constant	-0.929***	(-5.46)	-0.016	(-0.11)			-0.912***	(-5.25)	0.017	(0.12)		
Firm-Fixed Effects	Yes		Yes				Yes		Yes			
No. of Obs.	1,462		2,257				1,462		2,257			
Number of Clusters	331		375				331		375			
Adj. R-square	0.34		0.212				0.333		0.209			
F-test	13.57		9.596				21.100		11.087			
P-value	0.00		0.000				0.000		0.000			



**Table: 4.12 An Impact of Ownership Concentration Classified by Shareholders' Types on Firm Performance and the Presence of Dominant Shareholders by their Types before and after the Corporate Governance Reforms (Cont')**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration classified by the largest shareholder's types and the presence of the dominant shareholders by its types on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period (*Post* × variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Panel B:		Quasi-q										
Explanatory Variables	Model 4.3				Equality Test (Model 4.8)		Model 4.4				Equality Test (Model 4.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Family Own	0.628**	(2.42)	0.473**	(2.45)	-0.155	0.22						
Government Own	8.159***	(5.07)	0.031	(0.07)	-8.128***	22.02***						
Foreign Investor Own	0.083	(0.23)	-0.206	(-1.02)	-0.289	0.52						
Domestic company Own	1.176***	(3.51)	-0.239	(-0.83)	-1.415***	10.43***						
Bank Own	-4.557*	(-1.81)	-0.929	(-1.04)	3.628	1.73						
Non-Bank Financial insti.	-0.265	(-0.54)	0.614	(1.35)	0.879	1.71						
D_Family							0.066	(0.75)	0.168***	(2.78)	0.102	0.90
D_Government												
D_Foreign Investor							0.067	(0.65)	-0.017	(-0.23)	-0.084	0.45
D_Domestic company							0.394***	(3.19)	-0.075	(-0.57)	-0.469***	6.34***
D_Bank												
D_Non-Bank Financial							-0.285	(-1.65)	-0.081	(-1.20)	0.204	1.12
Share Difference	-0.08	(-0.64)	-0.310***	(-2.67)	-0.230	1.69	-0.050	(-0.30)	-0.222**	(-1.97)	-0.172	0.71
CV	0.266	(1.51)	0.031	(0.36)	-0.235	1.27	0.327*	(1.76)	0.026	(0.28)	-0.301	1.83
Board Size	-0.370***	(-3.87)	0.013	(0.140)	0.383***	6.73***	-0.369***	(-3.79)	0.015	(0.17)	0.384***	6.72***
Board Independence	-0.311	(-1.26)	0.010	(0.09)	0.321	1.30	-0.286	(-1.16)	0.014	(0.12)	0.3	1.13
Board Experience	-0.264	(-1.15)	-0.001	(-0.01)	0.263	0.90	-0.278	(-1.19)	0.012	(0.08)	0.29	1.05
CEO Founder	0.176**	(1.97)	-0.17	(-1.29)	-0.346	4.53	0.192*	(1.90)	-0.172	(-1.24)	-0.364**	4.28**
CEO Descendant	0.468**	(2.05)	0.04	(0.31)	-0.428	2.41	0.472*	(1.85)	0.051	(0.40)	-0.421	1.99
CEO-Chair	-0.062	(-0.66)	-0.10	(-1.50)	-0.038	0.09	-0.051	(-0.51)	-0.092	(-1.38)	-0.041	0.11
CEO-Group	-0.610***	(-3.30)	0.06	(0.70)	0.670***	10.05***	-0.585***	(-2.92)	0.050	(0.63)	0.635***	8.01***

(This table is continued on the next page)

**Table: 4.12 An Impact of Ownership Concentration Classified by Shareholders' Types on Firm Performance and the Presence of Dominant Shareholders by their Types before and after the Corporate Governance Reforms (Cont')**

The table shows the results of firm-fixed effects regression to investigate the impact of ownership concentration classified by the largest shareholder's types and the presence of the dominant shareholders by its types on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

<b>Panel B: (Cont')</b>										
<b>Explanatory Variables</b>	<b>Quasi-q</b>									
	<b>Model 4.3</b>				<b>Equality Test (Model 4.8)</b>		<b>Model 4.4</b>			
	<b>Pre-Reform</b>	<b><i>t</i></b>	<b>Post-Reform</b>	<b><i>t</i></b>	<b>Inct. Effect</b>	<b>Wald Test (F)</b>	<b>Pre-Reform</b>	<b><i>t</i></b>	<b>Post-Reform</b>	<b><i>t</i></b>
Firm Size	-0.618***	(-7.08)	-0.074	(-1.03)	0.544***	22.07***	-0.609***	(-7.09)	-0.080	(-1.09)
Firm Age	-1.465***	(-7.50)	0.636***	(4.42)	2.101***	59.90***	-1.439***	(-7.51)	0.649***	(4.54)
Firm Growth	0.100*	(1.73)	0.149***	(3.07)	0.049	0.38	0.113**	(2.04)	0.148***	(3.02)
Leverage	0.417***	(4.00)	0.017	(0.15)	-0.400***	5.95***	0.414***	(4.04)	0.023	(0.19)
Constant	14.830***	(12.19)	0.29	(0.29)			14.755***	(12.13)	0.314	(0.31)
Firm-Fixed Effects	Yes		Yes				Yes		Yes	
No. of Obs.	1,461		2,257				1,461		2,257	
Number of Clusters	331		375				331		375	
Adj. R-square	0.407		0.055				0.378		0.046	
F-test	18.369		3.574				19.248		3.680	
P-value	0.000		0.000				0.000		0.000	

#### ***4.6.3.4.3 The Impact of Managerial Ownership on Firm Performance***

Panels A and B, in Table 4.13, show the result of the multivariate regressions of managerial ownership on firm performance before and after the corporate governance reforms.

Regarding director ownership, Panel A shows that the coefficients of Manager Own are not significantly related to the ROA either before or after the reforms. However, the coefficient of Manager Own has a significant positive relationship to Quasi-q, only after the reforms.

By redefining managerial ownership to include only shares owned by executive directors, the results from Panel B show that the coefficient of Manager Own is not significantly related to either the ROA or Quasi-q in both sub-periods.

For the equality test ( $H_{a24}$ ), Panels A and B show that there are no significant incremental effects of managerial ownership on accounting and market performance in post-reform period. The Wald test also shows that the impacts of managerial ownership on both measurements of firm performance are not significantly different.

Overall, the evidence suggests that managerial ownership could have helped to align the interests of directors, especially after the reforms. Inconsistent with the expectation, managerial ownership in the post-reform period does not significantly help to align interests of managers to the firms more than it does in the pre-reform period. This could imply that the corporate governance reform might not be successful in aligning the interests of managers to their firms' interests.

Regarding other firm governance and economic characteristics, the effect of other control variables before and after the reforms does not differ from that analysed in section 4.6.3.4.2.

**Table: 4.13 An Impact of Managerial Ownership on Firm Performance before and after the Corporate Governance Reforms**

The table shows the results of firm-fixed effects regression to investigate an impact of managerial ownership on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel A: Model 4.5 – Ownership of All Directors**

Explanatory Variables	ROA				Equality Test (Model 4.10)		Quasi-q				Equality Test (Model 4.10)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Manager Own	0.040	(1.23)	0.018	(0.80)	-0.022	0.28	-0.057	(-0.20)	0.486***	(3.23)	0.543	2.69
Share Difference	-0.016	(-0.55)	0.018	(1.170)	0.034	0.98	0.005	(0.03)	-0.230**	(-1.98)	-0.235	1.41
CV	-0.023	(-0.67)	0.021	(1.40)	0.044	1.30	0.259	(1.34)	0.002	(0.02)	-0.257	1.30
Board Size	-0.044**	(-2.28)	-0.045***	(-2.76)	-0.001	0.00	-0.356***	(-3.74)	-0.019	(-0.20)	0.337***	5.29***
Board Independence	0.113***	(2.61)	0.020	(1.06)	-0.093*	3.37*	-0.296	(-1.19)	0.012	(0.11)	0.308	1.18
Board Experience	-0.017	(-0.42)	0.017	(0.82)	0.034	0.58	-0.272	(-1.15)	0.037	(0.25)	0.309	1.19
CEO Founder	-0.041*	(-1.82)	0.021	(0.98)	0.062*	3.70*	0.176	(1.59)	-0.170	(-1.24)	-0.346*	3.62*
CEO Descendant	0.035	(0.90)	-0.037*	(-1.70)	-0.072	2.46	0.464*	(1.77)	0.04	(0.29)	-0.424	1.95
CEO-Chair	0.028	(1.12)	-0.030**	(-2.19)	-0.058*	3.54*	-0.035	(-0.33)	-0.10	(-1.51)	-0.065	0.24
CEO-Group	0.080**	(2.55)	0.038***	(2.80)	-0.042	1.51	-0.589***	(-2.89)	0.04	(0.58)	0.629***	7.78***
Firm Size	0.087***	(6.40)	0.035***	(3.41)	-0.052***	8.63***	-0.614***	(-7.12)	-0.068	(-0.95)	0.546***	22.39***
Firm Age	-0.019	(-0.47)	-0.099***	(-4.12)	-0.08	2.35	-1.406***	(-7.44)	0.653***	(4.64)	2.059***	62.13***
Firm Growth	0.023	(1.42)	0.042***	(4.53)	0.019	1.02	0.118**	(2.11)	0.146***	(2.99)	0.028	0.13
Leverage	-0.293***	(-12.58)	-0.227***	(-10.5)	0.066***	4.14***	0.424***	(4.18)	-0.008	(-0.07)	-0.432***	6.91***
Constant	-0.896***	(-5.21)	0.005	(-0.04)			14.807***	(12.14)	0.16	(0.16)		
Firm-Fixed Effects	Yes		Yes				Yes		Yes			
No. of Obs.	1,462		2,257				1,461		2,257			
Number of Clusters	331		375				331		375			
Adj. R-square	0.333		0.210				0.373		0.049			
F-test	17.127		12.378				22.213		3.676			
P-value	0.000		0.000				0.000		0.000			

**Table: 4.13 An Impact of Managerial Ownership on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of firm-fixed effects regression to investigate an impact of managerial ownership on firm performance (ROA and Quasi-q) before and after the corporate governance reforms. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel B: Model 4.5 – Ownership of Executive Directors**

Explanatory Variables	ROA				Equality Test (Model 4.10)		Quasi-q				Equality Test (Model 4.10)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Manager Own	0.022	(1.00)	0.001	(0.03)	-0.021	0.40	0.158	(1.22)	-0.058	(-0.33)	-0.216	0.950
Share Difference	-0.013	(-0.46)	0.022	(1.53)	0.035	1.12	-0.007	(-0.04)	-0.131	(-1.30)	-0.124	0.38
CV	-0.022	(-0.67)	0.021	(1.38)	0.043	1.27	0.245	(1.31)	-0.004	(-0.04)	-0.249	1.29
Board Size	-0.039**	(-2.02)	-0.044***	(-2.70)	-0.005	0.04	-0.361***	(-3.68)	0.005	(0.06)	0.366***	6.08***
Board Independence	0.112***	(2.61)	0.020	(1.04)	-0.092*	3.40*	-0.294	(-1.20)	-0.001	(-0.01)	0.293	1.09
Board Experience	-0.016	(-0.40)	0.018	(0.85)	0.034	0.57	-0.268	(-1.13)	0.048	(0.33)	0.316	1.23
CEO Founder	-0.036*	(-1.70)	0.022	(1.01)	0.058*	3.48*	0.160	(1.59)	-0.153	(-1.18)	-0.313*	3.49*
CEO Descendant	0.036	(0.88)	-0.036*	(-1.67)	-0.072	2.31	0.428*	(1.79)	0.062	(0.48)	-0.366	1.66
CEO-Chair	0.026	(1.07)	-0.029**	(-2.11)	-0.055*	3.37*	-0.019	(-0.19)	-0.071	(-1.08)	-0.052	0.17
CEO-Group	0.079**	(2.47)	0.038***	(2.84)	-0.041	1.38	-0.568***	(-2.88)	0.052	(0.66)	0.620***	7.77***
Firm Size	0.086***	(6.34)	0.035***	(3.41)	-0.051***	8.55***	-0.615***	(-7.14)	-0.078	(-1.04)	0.537***	21.11***
Firm Age	-0.018	(-0.44)	-0.101***	(-4.17)	-0.083	2.52	-1.421***	(-7.44)	0.612***	(4.26)	2.033***	58.51***
Firm Growth	0.023	(1.48)	0.043***	(4.56)	0.02	0.97	0.118**	(2.09)	0.151***	(3.04)	0.033	0.180
Leverage	-0.294***	(-12.61)	-0.225***	(-10.5)	0.069**	4.39**	0.430***	(4.22)	0.028	(0.23)	-0.402***	6.04***
Constant	-0.895***	(-5.18)	0.017	(0.12)			14.853***	(12.30)	0.474	(0.46)		
Firm-Fixed Effects	Yes		Yes				Yes		Yes			
No. of Obs.	1,462		2,257				1,461		2,257			
Number of Clusters	331		375				331		375			
Adj. R-square	0.332		0.210				0.374		0.036			
F-test	17.015		12.289				21.908		3.027			
P-value	0.000		0.000				0.000		0.000			

## 4.7 Additional Tests and Sensitivity Analysis

### 4.7.1 Test for Model Specifications

#### 4.7.1.1 Test for the Multicollinearity Problem

In Table 4.7, Panels A and B report the correlation matrix for the full sample using the Pearson correlation coefficient and Spearman's rank correlation coefficient, respectively. The results suggest the presence of multicollinearity, but it is imperfect. The method of OLS assumes that there is no perfect linear relationship between independent variables (Gujarati, 1995). In order to test whether the multicollinearity problem is severe in this study, Variance Inflation Factors (VIF) and tolerance (1/VIF) were tested for all independent variables (including year and industry dummy) in all the regressions.

Table 4.14 shows that, on average, the VIF is less than 4<sup>54</sup>. However, it appears that the VIF of individual variables (firm size, firm age and government\_own) exceeds 10 in both the ROA and the Quasi-q samples. The high VIF may reduce the accuracy of the previous estimations. In order to test whether the presence of multicollinearity distorts the results from the previous regressions. This study took these variables out and re-estimated all regressions; the results remained the same, suggesting that the previous estimators were not seriously affected by the presence of multicollinearity.

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<sup>54</sup> There is no rule of thumb for the exact threshold of VIF. Nevertheless, existing research commonly suggests that the VIF value should be below 10 to indicate no serious multicollinearity (O'Brien, 2007).

**Table 4.14 Test for Multicollinearity – VIF Test**

ROA			Quasi-q		
Model 4.1 Ownership Concentration and Firm Performance					
Variables	VIF	1/VIF	Variables	VIF	1/VIF
Concentrated Own	7.46	0.134	Concentrated Own	7.46	0.134
Share Difference	6.22	0.161	Share Difference	6.22	0.161
CV	5.58	0.179	CV	5.58	0.179
Board Size	5	0.200	Board Size	5.02	0.199
Board Independence	6.12	0.163	Board Independence	6.12	0.164
Board Experience	6.33	0.158	Board Experience	6.33	0.158
CEO Founder	9.38	0.107	CEO Founder	9.39	0.107
CEO Descendant	7.91	0.126	CEO Descendant	7.92	0.126
CEO-Chair	6.76	0.148	CEO-Chair	6.76	0.148
CEO-Group	7.63	0.131	CEO-Group	7.63	0.131
Firm Size	16.9	0.059	Firm Size	16.89	0.059
Firm Age	43.51	0.023	Firm Age	43.51	0.023
Firm Growth	1.8	0.555	Firm Growth	1.8	0.554
Leverage	3.55	0.282	Leverage	3.55	0.281
Mean VIF	2.99		Mean VIF	2.99	

**Model 4.3: Ownership Concentration by Types of Shareholders and Firm Performance**

Variables	VIF	1/VIF	Variables	VIF	1/VIF
Family Own	9.04	0.111	Family Own	9.05	0.111
Government Own	17.69	0.057	Government Own	17.77	0.056
Foreign Investor Own	6.45	0.155	Foreign Investor Own	6.45	0.155
Domestic company Own	3.16	0.316	Domestic company Own	3.16	0.316
Bank Own	3.32	0.301	Bank Own	3.33	0.301
Non-Bank Financial Insti.	2.3	0.435	Non-Bank Financial Insti.	2.3	0.435
Share Difference	4.79	0.209	Share Difference	4.79	0.209
CV	5.97	0.168	CV	5.97	0.168
Board Size	5.03	0.199	Board Size	5.05	0.198
Board Independence	6.17	0.162	Board Independence	6.16	0.162
Board Experience	6.47	0.155	Board Experience	6.47	0.155
CEO Founder	9.45	0.106	CEO Founder	9.45	0.106
CEO Descendant	7.94	0.126	CEO Descendant	7.94	0.126
CEO-Chair	6.8	0.147	CEO-Chair	6.8	0.147
CEO-Group	7.65	0.131	CEO-Group	7.65	0.131
Firm Size	17.24	0.058	Firm Size	17.23	0.058
Firm Age	44.15	0.023	Firm Age	44.15	0.023
Firm Growth	1.81	0.553	Firm Growth	1.81	0.553
Leverage	3.57	0.280	Leverage	3.57	0.280
Mean VIF	3.09		Mean VIF	3.09	

**Model 4.5: Managerial Ownership and Firm Performance – Ownership of All Directors**

Variables	VIF	1/VIF	Variables	VIF	1/VIF
Manager Own	5.76	0.174	Manager Own	5.77	0.173
Share Difference	3.88	0.257	Share Difference	3.88	0.258
CV	5.55	0.180	CV	5.55	0.180
Board Size	5	0.200	Board Size	5.03	0.199
Board Independence	6.11	0.164	Board Independence	6.11	0.164
Board Experience	6.33	0.158	Board Experience	6.33	0.158
CEO Founder	9.47	0.106	CEO Founder	9.48	0.105
CEO Descendant	7.96	0.126	CEO Descendant	7.96	0.126
CEO-Chair	6.77	0.148	CEO-Chair	6.78	0.148
CEO-Group	7.63	0.131	CEO-Group	7.63	0.131
Firm Size	16.88	0.059	Firm Size	16.86	0.059
Firm Age	43.85	0.023	Firm Age	43.85	0.023
Firm Growth	1.8	0.555	Firm Growth	1.8	0.555
Leverage	3.55	0.282	Leverage	3.55	0.282
Mean VIF	2.94		Mean VIF	2.94	

#### ***4.7.1.2 Alternative Methodologies: Fixed Effect (FE), Ordinary Least Square (OLS) and Random Effect (RE)***

This study tested for model specifications using alternative methodologies (Pooled OLS and Random Effect, RE). Demsetz and Lehn (1985) argue that a relationship between ownership structure and firm performance may be spurious because both variables are industry specific. In order to account for an industry effect, this study employed two methods: (1) dummy variables<sup>55</sup> and (2) performance-adjusted industry. These are widely used in existing research to control for common industry effects (Gromley and Matsa, 2013). Performance-adjusted industry<sup>56</sup> was calculated by subtracting the industry median from the firm performance (ROA and Quasi-q) of each sample firm before estimating the models. Industry was divided into eight categories, which are consistent with the industry categories used by the SET.

Table 4.15 shows the coefficients of ownership variables estimated from fixed effect models and the alternative models. Most of the coefficients are consistent with those reported in the previous sections. In fact, the results confirm the positive impacts of managerial ownership, dominant shareholder ownership and dominant family shareholder ownership on firm performance. However, it appears that the impacts of other types of shareholder ownership (government and foreign company) on firm performance also become significant, especially under OLS regressions. Therefore, the evidence suggests that the use of OLS without controlling for firm fixed effects may lead to an endogeneity problem, arising from an unobserved firm-specific heterogeneity.

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<sup>55</sup> This study classified industry sectors into eight categories in line with those used by the SET. In order to reflect the most current classification, industry sectors in this study are based on the most up-to-date classification by the SET. Note that the classifications before 2004 were based on 21 industry sectors, and they have since been reclassified into eight industry sectors and 28 business subsectors. The eight industry sectors are Agro & Food, Industry, Consumer Products, Industrials, Property & Construction, Resources, Services, Technology and Other.

<sup>56</sup> Gromley and Matsa (2013) argue that performance-adjusted industry used in the OLS regression is insufficient to control for unobserved group-level heterogeneity. They comment that this method could lead to an omitted variable problem if any within-group correlation across observations exists among or across independent variables in the model. Therefore, in order to obtain a consistent estimator, a fixed-effect model should be directly used to control for unobserved group-level heterogeneity.



Finally, this study employed the Hausman test to compare the fixed-effects against random-effects models. The null hypothesis is that individual effects are random, so the random effect provides consistent estimators (Colin and Trivedi, 2010). The results of the tests show that the null hypothesis is rejected, suggesting that fixed-effect models are more efficient than random-effect models for the purposes of this study.

#### ***4.7.1.3 The Impact of Managerial Ownership on Firm Performance – A Non-Linear Relationship***

As recommended in the existing literature, this study tested whether the relationship between managerial ownership and firm performance is non-linear or not. In line with Short and Keasey's (1999) model, this study included a square and cube of ownership structure in the fixed-effects regressions (Model 4.5). The results for three definitions of managerial ownership in the full sample and two sub-samples are shown in Table 4.16, Panels A, B and C, respectively.

The results in Panels A and B show that there are no significant relationships between managerial ownership and both measurements of firm performance for all managerial ownership proxies. This may imply that the relationship between managerial ownership and firm performance is linear in form in the case of Thailand. This evidence is also consistent with the findings of Yammeesri (2003) for Thailand. In fact, square and cubic models may suffer severely from the multicollinearity problem when used on managerial ownership variables.

The results contradict previous research that applied non-linear models, including Cui and Mak (2002), Davis et al. (2005), Hu and Zhou (2008), Morck et al. (1988), McConnell and Servaes (1990), Short and Keasey (1999) and Wiwattanakantang (2001).

#### **4.7.2 Alternative Proxies for Firm Performance**

While ROA can be manipulated, sales are more difficult to manipulate by management discretion (Wiwattanakantang, 2001). Therefore, this study used sales-to-assets ratio as alternative proxy for accounting performance. This study used the market-to-book ratio

as the alternative measurement for market performance. The results, shown in Table 4.17, are consistent only for market performance. This study found no significant relationship between ownership structure and SA. The difference between the ROA and SA models may indicate that the ROA was affected by management discretions. Further investigation is performed and discussed in more detail in Chapter 5.

### 4.7.3 Within-Firm Changes in Share Ownership

Panel A in Table 4.18 shows a distribution of within-firm, year-to-year change in share ownership during 1995 to 2007. Panel B and C in Table 4.18 shows the distribution of within-firm, year-to-year change in share ownership during the pre-reform and the post-reform periods, respectively.

Overall, the evidence suggests that more than 70 percent of the sample have a year-to-year change in share ownership less than 10%. Additionally, the largest shareholder who owns large proportion of shares ( $\geq 25\%$ ) seems to have smaller changes in their share ownership. Regarding each type of shareholders, it shows that many family blockholders tend to have a small change in their ownership comparing to other types of shareholders i.e. domestic, bank and non-bank financial institutions.

The small variations of the year-to-year changes in ownership, especially in firms with the dominant shareholders may imply that shareholders are likely to hold large proportion of shares for long-term objectives.

According to Zhou (2001: 560),

“With rational managers maximising expected long-term interest, it is not clear that small, one-year changes in ownership are indicative of notable changes in managerial incentives that are likely to lead to substantive within-year changes in firm performance. Even if large equity stakes over time lead to better performance over time, the effect is expected to show up in cross-sectional tests. Because HHP’s tests rely on firm fixed effects, which essentially remove all cross-sectional variation, their findings do not provide strong evidence against the view that managerial ownership incentives are important for firm performance”

Zhou (2001) argues that the small variation of ownership might be insufficient to change shareholders' incentive to the level that could significantly change within-firm performance. Therefore, the fixed effect models might not efficiently detect the relationship between ownership structure and firm performance.

However, the results from Section 4.6.3 show that the fixed effect model can detect the impact of the changes of ownership structure on firm performance in this study. This could imply that although the ownership variation is small, it is likely to be sufficient to influence to the largest shareholders' incentive and lead to a significant change within-firm performance. In addition, most of the results from the fixed effect models are likely to be consistent to the results from alternative methods (i.e. OLS) presented in Section 4.7.1.2.

Table 4.15: Alternative Methodologies: Fixed Effect (FE), Ordinary Least Square (OLS) and Random Effect (RE)

	ROA						Quasi-q					
		FE– Industry- Adj. Median	Pooled OLS	Pooled OLS industry- Adj. Median	RE	RE– Industry- Adj. Median		FE– Industry- Adj. Median	Pooled OLS	Pooled OLS industry- Adj. Median	RE	RE– Industry- Adj. Median
	FE						FE					
Model 4.1												
Concentrated Own	0.050* (1.77)	0.066** (2.40)	0.067*** (5.38)	0.070*** (5.70)	0.061*** (2.83)	0.069*** (3.28)	0.504*** (3.00)	0.446*** (2.66)	0.462*** (6.09)	0.443*** (6.09)	0.504*** (3.56)	0.484*** (3.46)
Model 4.3												
Family Own	0.060** (2.57)	0.072*** (3.23)	0.065*** (5.63)	0.070*** (6.18)	0.065*** (3.58)	0.073*** (4.12)	0.515*** (3.61)	0.466*** (3.17)	0.393*** (5.78)	0.408*** (6.18)	0.470*** (3.98)	0.469*** (3.95)
Government Own	-0.021 (-0.26)	0.015 (0.21)	0.136*** (5.51)	0.097*** (4.77)	0.074** (2.08)	0.065* (1.96)	1.122 (1.23)	1.553* (1.72)	0.822*** (3.93)	0.693*** (3.52)	1.114** (2.37)	1.202*** (2.72)
Foreign Own	0.044 (1.28)	0.053 (1.56)	0.058*** (4.56)	0.062*** (5.01)	0.052** (2.09)	0.057** (2.34)	-0.004 (-0.02)	0.023 (0.13)	0.215*** (3.13)	0.211*** (3.15)	0.039 (0.27)	0.082 (0.58)
Domestic Own	0.029 (0.66)	0.043 (0.98)	0.010 (0.45)	0.016 (0.71)	0.014 (0.36)	0.028 (0.69)	0.307 (1.17)	0.233 (0.94)	0.637*** (4.21)	0.630*** (4.35)	0.366 (1.49)	0.314 (1.38)
Bank Own	0.027 (0.22)	0.026 (0.23)	0.101 (1.53)	0.100 (1.52)	0.007 (0.08)	0.026 (0.29)	-0.980 (-1.41)	-0.793 (-1.18)	-0.572 (-1.57)	-0.313 (-0.87)	-0.717 (-1.25)	-0.452 (-0.82)
Non-Bank Financial	0.078 (1.16)	0.023 (0.33)	0.069* (1.65)	0.038 (0.88)	0.091 (1.53)	0.038 (0.62)	-0.156 (-0.30)	-0.197 (-0.40)	-0.694** (-2.57)	-0.74*** (-2.75)	-0.216 (-0.49)	-0.291 (-0.68)
Model 4.5												
Manager Own (All Directors)	0.034** (2.08)	0.046*** (2.88)	0.044*** (5.86)	0.046*** (6.39)	0.046*** (3.67)	0.052*** (4.36)	0.398*** (3.72)	0.365*** (3.40)	0.128*** (2.69)	0.136*** (3.01)	0.273*** (3.21)	0.274*** (3.26)

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 4.16 The Impact of Managerial Ownership on Firm Performance – A Non-Linear Relationship**

The table shows the results of firm-fixed effects regression to investigate an impact of managerial ownership on firm performance (ROA and Quasi-q) in a non-linear model. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Non-linear Model (Short and Keasey, 1999):**

$$FM_{it} = \beta_0 + \beta_1 \text{Manager Own}_{it} + \beta_2 \text{Manager Own2}_{it} + \beta_3 \text{Manager Own3}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} + \alpha_{it} \text{Firm fixed effect} + \alpha_{it2} \text{Year fixed effect} + \varepsilon_{it}$$

**Panel A: Ownership of All Directors**

	Full Sample				Pre-Reform				Post-Reform			
	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t
Manager Own	0.008	(0.07)	0.235	(0.37)	-0.042	(-0.25)	-0.148	(-0.15)	-0.154	(-1.41)	0.546	(0.82)
Manager Own2	-0.046	(-0.15)	0.161	(0.09)	0.121	-0.24	-0.635	(-0.24)	0.374	(1.20)	-0.884	(-0.45)
Manager Own3	0.117	(0.47)	0.087	(0.06)	-0.005	(-0.01)	1.107	(0.56)	-0.205	(-0.81)	1.123	(0.69)
Share Difference	0.006	(0.53)	-0.095	(-1.16)	-0.019	(-0.65)	0.001	(0.01)	0.013	(0.84)	-0.244**	(-1.99)
CV	0.012	(0.87)	0.014	(0.13)	-0.021	(-0.62)	0.273	(1.43)	0.026*	(1.67)	0.013	(0.14)
Board Size	-0.045***	(-3.81)	-0.043	(-0.59)	-0.043**	(-2.21)	-0.350***	(-3.68)	-0.044***	(-2.74)	-0.019	(-0.21)
Board Independence	0.026	(1.41)	-0.047	(-0.48)	0.110**	-2.52	-0.300	(-1.18)	0.019	(1.00)	0.002	(0.02)
Board Experience	-0.010	(-0.56)	-0.084	(-0.77)	-0.022	(-0.54)	-0.300	(-1.27)	0.018	(0.85)	0.035	(0.24)
CEO Founder	0.013	(0.97)	-0.098	(-1.24)	-0.040*	(-1.83)	0.184*	(1.68)	0.022	(1.04)	-0.168	(-1.25)
CEO Descendant	-0.002	(-0.09)	0.060	(0.53)	0.040	(1.02)	0.491*	(1.82)	-0.035	(-1.61)	0.043	(0.34)
CEO-Chair	0.007	(0.45)	0.080	(1.14)	0.028	(1.12)	-0.042	(-0.39)	-0.029**	(-2.19)	-0.102	(-1.55)
CEO-Group	0.019	(1.38)	-0.002	(-0.03)	0.076**	(2.48)	-0.606***	(-3.02)	0.037***	(2.81)	0.041	(0.54)
Firm Size	0.041***	(6.03)	-0.138***	(-3.06)	0.087***	(6.41)	-0.612***	(-7.09)	0.037***	(3.54)	-0.066	(-0.91)
Firm Age	0.039	(1.48)	-0.128	(-0.89)	-0.023	(-0.55)	-1.431***	(-7.52)	-0.101***	(-4.21)	0.647***	(4.56)
Firm Growth	0.030***	(4.19)	0.133***	(3.73)	0.021	(1.33)	0.109**	(1.98)	0.042***	(4.47)	0.145***	(2.98)
Leverage	-0.235***	(-14.91)	0.288***	(3.46)	-0.292***	(-12.57)	0.430***	(4.25)	-0.226***	(-10.50)	-0.007	(-0.06)
Constant	-0.419***	(-3.37)	3.796***	(4.57)	-0.885***	(-5.07)	14.855***	(12.08)	0.007	(0.05)	0.177	(0.18)
Firm-Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year-Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,998		3,997		1,462		1,461		2,257		2,257	
Number of Clusters	441		441		331		331		375		375	
Adj. R-square	0.253		0.185		0.333		0.374		0.212		0.049	
F-test	19.358		18.107		15.493		20.064		11.522		3.308	
P-value	0.000		0.000		0.000		0.000		0.000		0.000	

**Table 4.16 The Impact of Managerial Ownership on Firm Performance – A Non-Linear Relationship (Cont')**

The table shows the results of firm-fixed effects regression to investigate an impact of managerial ownership (i.e. only executive directors) on firm performance (ROA and Quasi-q) in a non-linear model. All variables definitions are presented in Table 4.1. t-statistics for two-tails test based on corrected standards errors clustering at firm level are reported in parentheses. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Non-linear Model (Short and Keasey, 1999):**

$$FM_{it} = \beta_0 + \beta_1 \text{Manager Own}_{it} + \beta_2 \text{Manager Own2}_{it} + \beta_3 \text{Manager Own3}_{it} + \gamma_1 \text{Share Difference}_{it} + \gamma_2 \text{CV}_{it} + \gamma_3 \text{Board Size}_{it} + \gamma_4 \text{Board Independence}_{it} + \gamma_5 \text{Board Experience}_{it} + \gamma_6 \text{CEO Founder}_{it} + \gamma_7 \text{CEO Descendant}_{it} + \gamma_8 \text{CEO-Chair}_{it} + \gamma_9 \text{CEO-Group}_{it} + \gamma_{10} \text{Firm Size} + \gamma_{11} \text{Firm Age}_{it} + \gamma_{12} \text{Firm Growth}_{it} + \gamma_{13} \text{Leverage}_{it} + \alpha_{it} \text{Firm fixed effect} + \alpha_{it} \text{Year fixed effect} + \varepsilon_{it}$$

**Panel B: Ownership of Executive Directors**

	Full Sample				Pre-Reform				Post-Reform			
	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t	ROA	t	Quasi-q	t
Manager Own	0.187	(0.92)	0.636	(0.71)	-0.120	(-0.34)	0.776	(0.46)	-0.129	(-0.64)	-1.020	(-0.82)
Manager Own2	-1.008	(-1.17)	-2.421	(-0.60)	0.331	(0.23)	-3.661	(-0.51)	0.378	(0.40)	6.666	(1.15)
Manager Own3	1.224	(1.33)	2.693	(0.61)	-0.092	(-0.06)	4.648	(0.62)	-0.244	(-0.23)	-8.718	(-1.33)
Share Difference	0.015	(1.27)	-0.013	(-0.16)	-0.016	(-0.54)	-0.002	(-0.01)	0.020	(1.41)	-0.123	(-1.22)
CV	0.012	(0.85)	0.018	(0.17)	-0.025	(-0.71)	0.246	(1.36)	0.022	(1.46)	-0.011	(-0.13)
Board Size	-0.043***	(-3.70)	-0.022	(-0.29)	-0.039**	(-2.02)	-0.361***	(-3.66)	-0.043***	(-2.70)	0.009	(0.10)
Board Independence	0.024	(1.29)	-0.063	(-0.63)	0.111***	(2.60)	-0.294	(-1.19)	0.019	(0.97)	0.002	(0.02)
Board Experience	-0.007	(-0.41)	-0.066	(-0.59)	-0.017	(-0.42)	-0.267	(-1.12)	0.018	(0.86)	0.047	(0.32)
CEO Founder	0.014	(1.04)	-0.087	(-1.14)	-0.035*	(-1.67)	0.151	(1.45)	0.022	(1.03)	-0.151	(-1.19)
CEO Descendant	0.000	(0.01)	0.078	(0.67)	0.040	(0.93)	0.443*	(1.80)	-0.036*	(-1.67)	0.058	(0.46)
CEO-Chair	0.007	(0.48)	0.094	(1.36)	0.028	(1.20)	-0.014	(-0.14)	-0.029**	(-2.11)	-0.075	(-1.14)
CEO-Group	0.020	(1.46)	0.011	(0.14)	0.077**	(2.39)	-0.575***	(-2.90)	0.037***	(2.77)	0.053	(0.68)
Firm Size	0.040***	(6.11)	-0.134***	(-2.92)	0.086***	(6.34)	-0.615***	(-7.14)	0.035***	(3.43)	-0.078	(-1.05)
Firm Age	0.032	(1.23)	-0.206	(-1.43)	-0.019	(-0.46)	-1.420***	(-7.43)	-0.100***	(-4.18)	0.604***	(4.22)
Firm Growth	0.030***	(4.21)	0.134***	(3.75)	0.023	(1.46)	0.116**	(2.06)	0.043***	(4.57)	0.152***	(3.08)
Leverage	-0.236***	(-14.83)	0.290***	(3.42)	-0.293***	(-12.64)	0.430***	(4.22)	-0.226***	(-10.53)	0.026	(0.22)
Constant	-0.406***	(-3.22)	3.949***	(4.66)	-0.886***	(-5.06)	14.852***	(12.37)	0.014	(0.10)	0.489	(0.48)
Firm-Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year-Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,998		3,997		1,462		1,461		2,257		2,257	
Number of Clusters	441		441		331		331		375		375	
Adj. R-square	0.251		0.176		0.332		0.373		0.210		0.038	
F-test	19.010		18.996		14.983		19.203		10.846		2.899	
P-value	0.000		0.000		0.000		0.000		0.000		0.000	

**Table 4.17 Test for Model Specifications - Alternative Measurement of Accounting Performance****Sales-to-Assets Ratio (SA)****Market to Book Ratio (MB)****Model 4.1 Ownership Concentration and Firm**

Variables	Coff.	t	Variables	Coff.	t
Concentrated Own	0.063	(0.96)	Concentrated Own	0.856**	(2.14)
Share Difference	0.011	(0.31)	Share Difference	-0.16	(-0.68)
CV	0.028	(0.56)	CV	0.472**	(2.06)
Board Size	-0.045	(-1.21)	Board Size	0.042	(0.22)
Board Independence	0.064	(1.07)	Board Independence	0.213	(0.78)
Board Experience	0.043	(0.74)	Board Experience	0.162	(0.54)
CEO Founder	0.022	(0.60)	CEO Founder	-0.014	(-0.07)
CEO Descendant	0.023	(0.53)	CEO Descendant	0.384	(1.24)
CEO-Chair	0.014	(0.29)	CEO-Chair	0.226	(1.13)
CEO-Group	0.015	(0.51)	CEO-Group	0.019	(0.08)
Firm Size	0.158***	(6.56)	Firm Size	-0.001	(-0.01)
Firm Age	-0.074	(-1.26)	Firm Age	-0.501	(-1.46)
Firm Growth	0.143***	(5.03)	Firm Growth	0.309***	(3.67)
Leverage	-0.613***	(-9.55)	Leverage	-0.256	(-1.11)
Adj. R-Square	0.232		Adj. R-Square	0.147	
Observations	3.998		Observations	3.997	

**Model 4.3: Ownership Concentration by Types of Shareholders and Firm Performance**

Variables	Coff.	t	Variables	Coff.	t
Family Own	0.059	(1.00)	Family Own	1.132***	(3.48)
Government Own	-0.286	(-0.93)	Government Own	1.903	(1.16)
Foreign Investor Own	0.101	(1.01)	Foreign Investor Own	-0.053	(-0.12)
Domestic company Own	-0.051	(-0.45)	Domestic company Own	0.508	(0.72)
Bank Own	-0.042	(-0.13)	Bank Own	1.38	(0.67)
Non-Bank Financial insti. Own	0.356	(1.58)	Non-Bank Financial insti. Own	0.142	(0.12)
Share Difference	0.03	(0.88)	Share Difference	-0.163	(-0.82)
CV	0.016	(0.32)	CV	0.554**	(2.24)
Board Size	-0.042	(-1.13)	Board Size	0.008	(0.04)
Board Independence	0.065	(1.07)	Board Independence	0.241	(0.91)
Board Experience	0.049	(0.84)	Board Experience	0.077	(0.25)
CEO Founder	0.023	(0.65)	CEO Founder	-0.025	(-0.13)
CEO Descendant	0.022	(0.50)	CEO Descendant	0.358	(1.16)
CEO-Chair	0.016	(0.33)	CEO-Chair	0.187	(0.91)
CEO-Group	0.017	(0.60)	CEO-Group	0.005	(0.02)
Firm Size	0.157***	(6.57)	Firm Size	0.012	(0.13)
Firm Age	-0.083	(-1.42)	Firm Age	-0.401	(-1.20)
Firm Growth	0.144***	(5.07)	Firm Growth	0.311***	(3.77)
Leverage	-0.609***	(-9.58)	Leverage	-0.276	(-1.20)
Adj. R-Square	0.234		Adj. R-Square	0.151	
Observations	3.998		Observations	3.997	

**Model 4.5: Managerial Ownership and Firm Performance – Ownership of All Directors**

Variables	Coff.	t	Variables	Coff.	t
Manager Own	-0.015	(-0.31)	Manager Own	0.689**	(2.58)
Share Difference	0.038	(1.27)	Share Difference	0.036	(0.19)
CV	0.025	(0.50)	CV	0.410*	(1.82)
Board Size	-0.046	(-1.23)	Board Size	-0.022	(-0.12)
Board Independence	0.062	(1.04)	Board Independence	0.201	(0.75)
Board Experience	0.045	(0.78)	Board Experience	0.171	(0.57)
CEO Founder	0.023	(0.64)	CEO Founder	-0.062	(-0.31)
CEO Descendant	0.025	(0.59)	CEO Descendant	0.348	(1.13)
CEO-Chair	0.014	(0.29)	CEO-Chair	0.195	(0.99)
CEO-Group	0.016	(0.54)	CEO-Group	0.018	(0.07)
Firm Size	0.157***	(6.54)	Firm Size	-0.022	(-0.23)
Firm Age	-0.083	(-1.42)	Firm Age	-0.455	(-1.36)
Firm Growth	0.143***	(5.06)	Firm Growth	0.318***	(3.79)
Leverage	-0.613***	(-9.54)	Leverage	-0.269	(-1.17)
Adj. R-Square	0.232		Adj. R-Square	0.148	
Observations	3.998		Observations	3.997	

Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level

**Table 4.18: Within-Firm Changes in Share Ownership**

This table presents a distribution of within-firm, year-to-year change in share ownership. The sample contains an unbalanced panel of firms listed in the Stock Exchange of Thailand during 1995 to 2007. Share Ownership is calculated by an unsigned difference in share ownership divided by the last year's share ownership.

**Panel A: Full Sample - Year 1995 to 2007**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	2,704	77.10%	2,490	72.59%	196	73.41%	1,472	54.50%	493	56.28%	563	66.00%	918	36.20%
10%< %change >=25%	449	12.80%	443	12.92%	21	7.87%	316	11.70%	70	7.99%	78	9.14%	356	14.04%
25%< %change >=50%	220	6.27%	251	7.32%	12	4.49%	330	12.22%	67	7.65%	51	5.98%	350	13.80%
50%< %change >=75%	64	1.82%	110	3.21%	11	4.12%	155	5.74%	20	2.28%	22	2.58%	247	9.74%
75%< %change >=100%	32	0.91%	71	2.07%	22	8.24%	254	9.40%	194	22.15%	130	15.24%	484	19.09%
%change >100%	38	1.08%	65	1.90%	5	1.87%	174	6.44%	32	3.65%	9	1.06%	181	7.14%
	3,507	100.00%	3,430	100.00%	267	100.00%	2,701	100.00%	876	100.00%	853	100.00%	2,536	100.00%

**Ownership >=25%**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	2,284	81.25%	1,858	81.14%	70	86.42%	380	82.25%	61	74.39%	10	66.67%	8	72.73%
10%< %change >=25%	309	10.99%	256	11.18%	8	9.88%	32	6.93%	7	8.54%	3	20.00%	2	18.18%
25%< %change >=50%	130	4.62%	104	4.54%	2	2.47%	17	3.68%	2	2.44%	1	6.67%	0	0.00%
50%< %change >=75%	31	1.10%	23	1.00%	0	0.00%	5	1.08%	0	0.00%	0	0.00%	0	0.00%
75%< %change >=100%	23	0.82%	11	0.48%	0	0.00%	5	1.08%	2	2.44%	0	0.00%	0	0.00%
%change >100%	34	1.21%	38	1.66%	1	1.23%	23	4.98%	10	12.20%	1	6.67%	1	9.09%
	2,811	100.00%	2,290	100.00%	81	100.00%	462	100.00%	82	100.00%	15	100.00%	11	100.00%



**Table 4.18: Within-Firm Changes in Share Ownership (Cont')**

This table presents a distribution of within-firm, year-to-year change in share ownership. The sample contains an unbalanced panel of firms listed in the Stock Exchange of Thailand during 1995 to 1998. Share Ownership is calculated by an unsigned difference in share ownership divided by the last year's share ownership.

**Panel B: Before CG Reforms - Year 1995 to 1998**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	875	77.43%	818	73.23%	54	79.41%	467	54.11%	180	55.21%	203	77.19%	316	32.21%
10%<  %change  >=25%	158	13.98%	163	14.59%	7	10.29%	95	11.01%	27	8.28%	29	11.03%	160	16.31%
25%<  %change  >=50%	53	4.69%	70	6.27%	3	4.41%	108	12.51%	22	6.75%	7	2.66%	163	16.62%
50%<  %change  >=75%	23	2.04%	30	2.69%	2	2.94%	51	5.91%	6	1.84%	4	1.52%	100	10.19%
75<  %change  >=100%	9	0.80%	16	1.43%	1	1.47%	79	9.15%	71	21.78%	18	6.84%	148	15.09%
%change  >100%	12	1.06%	20	1.79%	1	1.47%	63	7.30%	20	6.13%	2	0.76%	94	9.58%
	1,130	100.00%	1,117	100.00%	68	100.00%	863	100.00%	326	100.00%	263	100.00%	981	100.00%

**Ownership >=25%**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	721	80.83%	606	80.80%	16	88.89%	98	85.22%	18	66.67%	n/a	n/a	3	60.00%
10%<  %change  >=25%	109	12.22%	92	12.27%	2	11.11%	5	4.35%	2	7.41%	n/a	n/a	1	20.00%
25%<  %change  >=50%	32	3.59%	29	3.87%	0	0.00%	3	2.61%	0	0.00%	n/a	n/a	0	0.00%
50%<  %change  >=75%	13	1.46%	10	1.33%	0	0.00%	2	1.74%	0	0.00%	n/a	n/a	0	0.00%
75<  %change  >=100%	7	0.78%	2	0.27%	0	0.00%	2	1.74%	0	0.00%	n/a	n/a	0	0.00%
%change  >100%	10	1.12%	11	1.47%	0	0.00%	5	4.35%	7	25.93%	n/a	n/a	1	20.00%
	892	100.00%	750	100.00%	18	100.00%	115	100.00%	27	100.00%	n/a	n/a	5	100.00%

**Table 4.18: Within-Firm Changes in Share Ownership (Cont')**

This table presents a distribution of within-firm, year-to-year change in share ownership. The sample contains an unbalanced panel of firms listed in the Stock Exchange of Thailand during 2000 to 2007. Share Ownership is calculated by an unsigned difference in share ownership divided by the last year's share ownership.

**Panel C: After CG Reforms - Year 2000 to 2007**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	1,621	76.61%	1,482	72.12%	130	72.22%	904	55.39%	282	59.12%	320	61.19%	533	39.60%
10<  %change  >=25	263	12.43%	247	12.02%	11	6.11%	191	11.70%	34	7.13%	35	6.69%	169	12.56%
25<  %change  >=50	150	7.09%	160	7.79%	8	4.44%	202	12.38%	39	8.18%	39	7.46%	154	11.44%
50<  %change  >=75	38	1.80%	71	3.45%	9	5.00%	91	5.58%	12	2.52%	15	2.87%	120	8.92%
75<  %change  >=100	21	0.99%	53	2.58%	19	10.56%	152	9.31%	98	20.55%	108	20.65%	303	22.51%
%change  >100	23	1.09%	42	2.04%	3	1.67%	92	5.64%	12	2.52%	6	1.15%	67	4.98%
	2,116	100.00%	2,055	100.00%	180	100.00%	1,632	100.00%	477	100.00%	523	100.00%	1,346	100.00%

**Ownership >=25%**

Range of Yearly % Change in Ownership	The Largest Shareholder of the Listed Firm		The Largest Shareholders within Each Types of Shareholders											
			Family		Government		Foreign		Domestic		Bank		Non-Bank Financial Insti.	
	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.	Obs.	% of Obs.
%change  <=10%	1,390	81.33%	1,109	81.01%	50	89.29%	254	81.94%	40	76.92%	10	66.67%	4	80.00%
10<  %change  >=25	179	10.47%	145	10.59%	4	7.14%	26	8.39%	5	9.62%	3	20.00%	1	20.00%
25<  %change  >=50	86	5.03%	67	4.89%	1	1.79%	12	3.87%	2	3.85%	1	6.67%	0	0.00%
50<  %change  >=75	18	1.05%	13	0.95%	0	0.00%	3	0.97%	0	0.00%	0	0.00%	0	0.00%
75<  %change  >=100	15	0.88%	9	0.66%	0	0.00%	1	0.32%	2	3.85%	0	0.00%	0	0.00%
%change  >100	21	1.23%	26	1.90%	1	1.79%	14	4.52%	3	5.77%	1	6.67%	0	0.00%
	1,709	100.00%	1,369	100.00%	56	100.00%	310	100.00%	52	100.00%	15	100.00%	5	100.00%

## **4.8 Summary and Conclusions**

This chapter has examined the potential impacts of various types of dominant shareholder and ownership concentration on firm performance, based on sample of listed firms in the Thai capital markets from 1994 to 2007, and it contributes to related literature on ownership structure, corporate governance and firm performance in the context of emerging capital markets.

Firstly, the period covered by this sample has allowed this study to investigate the impact of government initiated corporate governance reforms. Indeed, the long-term data has also allowed this study to investigate the impact of ownership structure on firm performance before and after the introduction of corporate governance reforms in Thailand. It also allowed this study to investigate the impact of other corporate governance mechanisms such as board structure and CEO characteristics on firm performance. Hence this study adds to an on-going debate about the efficiency of the reforms and whether they have helped to partly reduce the conflict of interests between dominant shareholders and minority shareholders or not.

Secondly, unlike most other studies on ownership structure, the analysis in this chapter used a fixed-effect model to control for problems related to the endogeneity of ownership variables that may have arisen from unobserved firm heterogeneity (Himmelberg et al., 1999).

Finally, the use of specific sources of ownership data has allowed this study to identify ultimate shareholders and their ownership shareholdings, including their cash-flow and control rights for each firm, thereby improving the reliability and quality of the ownership variables.

In respect to the first research question regarding any change of ownership structure in Thailand, the findings reveal that Thai listed companies tend to have been characterised by a high degree of ownership concentration during the periods studied. It has been shown that 79.81% of listed firms in the sample from the Thai capital market had a

dominant shareholder, most often in the form of a dominant family shareholder. In addition, the evidence in this study has found that, on average, family and foreign dominant shareholder ownership has statistically increased after the reforms, and this contradicts the finding of Gao et al., (2008), which suggests that the reforms reduced the incentive for dominant shareholders to hold shares in the firms they control.

In respect to the second and third research questions regarding the impact of ownership structure on firm performance and whether its improvement after the reform, the evidence supports the notion of an alignment of interests, suggesting that increasing levels of ownership concentration are associated with high accounting performance (ROA) and market performance (Quasi-q). Analysis of data from before and after the corporate governance reforms has shown that the positive impact of ownership concentration on market performance can be detected in both periods, without any improvement following the reforms. However, while the level of ownership seems to have only had a significant impact on accounting performance after the reforms, the improvement is not statistically significant.

Regarding the presence of dominant shareholders, firms seem to have consistently benefitted from their dominant shareholders only in terms of market performance over time and for each sub-period. This may imply that investors view the presence of dominant shareholders as a mechanism that acts as a substitute for corporate governance (Denis and McConnell, 2003). The evidence is partly consistent with the findings of other research such as Claessens and Djankov, (1999), Haniffa and Hudaib, (2006), Morck et al., (2000), Seifert et al., (2005), Wiwattanakantang, (2001) and Yammeesri (2003).

Regarding the types of shareholder, the evidence from this study reveals that levels of ownership positively influenced family owners to align their interests with those of their firms, enhancing both accounting and market performance over time and before and after the reforms. The evidence also suggests that family blockholders are self-constrained by the substantiality of their shareholding and/or their reputation in a firm

(Asaba and Kunugita, 2007; Maury, 2006; Mishra et al., 2001; Martínez et al., 2007; Bonilla et al., 2010; Wiwattanakantang, 2001; Yammesri et al., 2006) and that they are therefore less likely to exploit corporate assets. Nevertheless, the presence of dominant family shareholders has only benefited firms in terms of market performance, particularly after the reforms.

For other types of shareholder, this study has found that the alignment of the interests of other types of shareholder (government and domestic companies) with those of firms increased as their proportion of shares increased, but only before the reforms. These shareholders may motivate by weak corporate governance system before the reform to provide closely monitoring to managers. The expectation of better corporate governance system after the reform therefore reduced the motivation of these shareholders' to engage in monitoring. However, it appears that dominant foreign company shareholders have aligned their interests more closely with those of firms only after the reforms. This may have partly been caused by the Government's campaign for foreign investment, which has led to an increase in the proportions of shares owned by foreign company investors.

Regarding bank ownership, this study has found that the negative impact of bank ownership on market performance was only present before the reforms, and this supports the argument that the close relationships between banks and families may reduce the motivation and ability of the banks to provide efficient monitoring (Limpaphayom and Polwitoon, 2004). This study has found that banks were more likely to increase their proportion of shares in firms after the reforms. Therefore, this might suggest that the shift from bank-lenders to larger equity-owners after the reforms may have either forced banks to take a more active role in monitoring or reduced the conflict of interests between bank-owners and firms (Limpaphayom and Polwitoon, 2004; Morck et al., 2000).

Regarding managerial ownership, the evidence reveals a positive impact of managerial ownership, in particular by all directors, on accounting and market firm performance.

However, there is no significant relationship between ownership of executive directors and firm performance. This evidence suggests that ownership has helped to increase motivation of directors to perform their duty. However, share ownership might be less efficient to align interests of management with other shareholders in case of Thailand. Nevertheless, it does help to increase the motivation of in particular, non-executive directors to supervisor managers.

Additionally, this study has not found any evidence to support the notion of a non-linear relationship between managerial ownership and firm performance. While this is consistent with the findings of Yammesri (2003) in Thailand, it is inconsistent with many findings from other countries (Cui and Mak, 2002; Davis et al., 2005; Hu and Zhou, 2008; Morck et al., 1988; McConnell and Servaes, 1990; Short and Keasey, 1999).

Overall, the findings above may imply that the motivation of large shareholders to align their interests with those of other shareholders depends more on the size of their block of shares rather than on whether they are dominant shareholders or not. Because the SEA, 1992, requires at least 75% of the total number of shareholder votes in order for a resolution on major events to be passed at shareholder meetings, higher levels of shares may still guarantee a deciding proportion of the votes. The motivation of large shareholders/dominant shareholders also depends on their type. Contradictory to the World Bank's claim, this study has not found any evidence that the presence of dominant shareholders and high ownership concentration has been detrimental to the performance of listed firms over time or before or after the reforms, except in the case of bank ownership.

Regarding other governance mechanisms, this study has found evidence of exploitation via pyramidal and/or cross-shareholding arrangements after the reform in term of accounting performance. This suggests that the reform may increase incentive of the largest shareholder to extract the firms' assets via these structures because it may be an easier channel to do after the reform. In addition, where the second largest shareholders

have a percentage of shares close to that of the largest shareholders, this seems to have motivated them to monitor the largest shareholder and thereby enhance accounting performance.

Regarding boards of directors, this study provides evidence of their inefficiency, in terms of accounting performance in both sub-periods, when they are too big (for other examples of this, see Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996). In addition, board independence appears to have had a positive impact only on accounting performance, and only before the reforms. This evidence casts doubt on the effectiveness of reforms that have been aimed at increasing the independence of boards, since 1999. It is possible that firms have failed to comply with the requirement of three independent board members and merely increased the size of their boards by appointing more directors who may not be truly independent. Furthermore, because the SEA, 1992, limits the number of shares held by independent directors to a maximum of 0.05% (amended to 1% since 2008), they may have limited ability and have lacked of economic incentive to supervise managers, who are often large shareholders.

Regarding CEO characteristics, this study has found evidence of lower accounting performance from firms with CEO founders, but only before the reforms. The evidence suggests that CEO founders might exercise their control in the way that does not contribute to firm performance (for example, by selecting directors who come from the same group) (Morck et al., 1988). This contradicts previous research from the UK (Adam et al., 2009; Anderson and Reeb, 2003; Villalonga and Amit, 2006; Sraer and Thesmar, 2007), which supports the notion of an alignment of interests between CEO founders and their firms. In addition, CEO descendants were found to have had a negative impact on accounting performance after the reforms. This contributes the on-going debate about the competency of family descendants to manage family firms (for examples, see Bertrand et al., 2008; Mehrotra et al., 2013; Villalonga and Amit, 2006).

In contrast, the findings reveal a positive impact on market performance before the reforms from CEOs who were either founders or their descendants. In fact, many big

businesses in Thailand are run by famous families in Thai society, in which the founder normally becomes the CEO. Additionally, before the reforms, when corporate governance was perceived as very weak, investors may have been reassured that famous families or firm founders had the knowledge, ambition and reputational concern to facilitate firm growth and profitability in the long run.

Regarding CEO duality, the evidence reveals that, while the combination of chairman and CEO positions has not had any significant impact on firm accounting performance before the reforms, it has had a negative impact after the reforms. Hence the evidence seems to support the perspective of the agency theory rather than that of stewardship theory (Fama and Jensen, 1983; Jensen, 1993).

The evidence also suggests that specific environments (under the reforms) may have affected the motivation of CEO-chairmen to perform their tasks (Peng et al., 2007) by creating pressure on CEO-chairmen to engage in opportunistic activities (in order to avoid restrictive regulations, for example) (La Porta et al., 1999). However, it also suggests that firms are likely to have benefitted, in terms of accounting performance, (via better communication, checks and balances) from having a CEO and chairman who came from the same group but who were not the same person, both before and after the reforms. Nevertheless, this structure might not be favoured by investors, which would explain its negative impact on market performance.

In conclusion, the evidence from this study challenges the claim by the World Bank and argues that highly concentrated ownership might not be detrimental to firm performance. Listed firms in Thailand still had high levels of ownership concentration, even after the reforms, so the reforms have not made a remarkable contribution in terms of improving the impact of concentrated ownership on firm performance. In addition, higher levels of concentrated ownership have tended to align rather than divert the interests of largest shareholders who are family, regardless of whether they were dominant shareholders or not, both prior to and following the reforms. The attempt to improve the quality of boards of directors seems not to have been successful.



Finally, the contradictions in the results, from different measurements of firm performance, raise a question over whether these variables are influenced by accounting discretion or investors' perception. The two following chapters examine the impact of ownership structure and other corporate governance mechanisms on accounting discretion and investor perception, respectively.

## **Chapter 5: The Impact of Ownership Structure and Other Corporate Governance Mechanisms on Managers' Accounting Discretion**

### **5.1 Introduction: Motivations and Research Questions**

The direct impacts of various ownership structures on firm performance were investigated in the previous chapter. The evidence suggests that high ownership concentration by the largest shareholders and the presence of dominant shareholders are beneficial rather than detrimental to minority shareholders and firms. Nevertheless, it has been debated whether the ROA and/or Quasi-q accurately reflect the performance of a firm or not, because their accuracy primarily depends on the quality of accounting information that may be subject to managers' accounting discretion (for examples, see Demsetz and Villalonga, 2001; Wiwattanakantang, 2001). Hence the positive impacts found in Chapter 4 may partly be a result of the manipulation of accounts, which needs further investigation.

Previously, the use of accounting discretion to manipulate earnings appears to have played a part in giant corporate scandals such as Enron and WorldCom (Giroux, 2008; Jensen, 2005). Although some academics<sup>1</sup> argue that not all accounting discretion<sup>2</sup> is for opportunistic purposes, the scandals have led to a negative perception of its use (Jiraporn et al., 2008), as well as raising awareness among market regulators and academics regarding the role of corporate governance mechanisms in detecting and preventing future scandals and leading to legislation such as the Sarbanes-Oxley Act of 2002 in the US.

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<sup>1</sup> For example, Jiraporn et al. (2008), Subramanyam (1996) and Watts and Zimmerman (1986).

<sup>2</sup> Accounting standards (IFRSs, US GAAP) intentionally allow managers to use their judgment to choose accounting methods and policies that convey accounting information that more accurately portrays a firm's financial position and performance to users of financial reporting (Healy and Wahlen, 1999).

From the perspective of agency theory, the conflicts of interest between managers and shareholders, where ownership and control are separated, may motivate managers to engage in opportunistic accounting discretion to benefit themselves (as in the case of bonuses or compensation tied to earnings). Therefore, corporate governance mechanisms are seen as the first key for helping to reduce conflicts of interest and the motivation of management to engage in opportunistic accounting discretion.

Existing research particularly focuses on investigating whether corporate governance mechanisms (such as the board of directors and external auditors) can partly limit the misuse of accounting discretion (for examples, see Klein, 2002; Bowen et al., 2008; Fan and Wong, 2002; Larcker et al., 2007; Wang, 2006; Wang and Yung, 2011) and whether poor corporate governance leads to financial misstatement and fraud (for example, see Dechow et al., 1996). Nevertheless, little is known about the role of ownership structure in managers' accounting discretion.

This study aims to explore and provide additional evidence on the impact of ownership structure and other corporate governance mechanisms on accounting discretion in Thailand. As shown in Chapter 4, ownership and control are commonly combined in most listed firms. Leuz et al. (2003) argue that this characteristic may motivate dominant shareholder-managers to engage in opportunistic accounting discretion if their interests diverge from those of minority shareholders or firms. Since the findings in Chapter 4 provide evidence that suggests a positive relationship between ownership structure and firm performance, this study also investigates whether or not the positive impact of ownership concentration on firm performance is a result of managers' accounting discretion.

In addition, while corporate governance mechanisms, such as investor protection, and accounting systems are perceived as strong in developed countries like the US or the UK, they are claimed to be less efficient in emerging countries. The high-profile corporate governance reforms in Thailand give an opportunity for this study to

contribute to the literature on whether reforms can help to limit the opportunistic use of accounting discretion by reducing conflicts of interest or not.

Two research questions are addressed in this chapter:

Q5.1: Whether ownership structure and other corporate governance mechanisms influence to managers' accounting discretion

Q5.2: Whether the impact of ownership structure and other corporate governance mechanisms on managers' accounting discretion significantly differs between periods before and after the reforms

This study contributes to the existing literature in many ways.

Firstly, the literature suggests that a difference in corporate governance structure might affect the quality of reported earnings. For example, while the quality of financial reporting in firms with dispersed ownership is likely to be influenced by managers, in firms with concentrated ownership it is more likely to be influenced by large shareholders, who have substantial control. In addition, much research in this area has been done in the US, which is believed to have high accounting standards and good corporate governance systems (for examples, see Klein, 2002; Bowen et al., 2008; Larcker et al., 2007; Wang, 2006; Warfield et al. 1995). However, few papers have dealt with the context of emerging markets, in which ownership is highly concentrated rather than dispersed (for examples, Fan and Wong, 2002; Hashim and Devi, 2009; Wang and Yung, 2011; Yongxu et al. 2010). Therefore, the evidence from this study will adds to the limited literature on the context of emerging markets.

Secondly, Ball et al. (2003) assert that earnings quality is subject to incentives of preparers of financial reporting rather than high quality of accounting standards required by the law. With high ownership concentration, large shareholders/dominant shareholders normally involve or have influence on a preparation of financial reporting. Therefore, this study investigates whether different types of influenced shareholders have different impact on a use of accounting discretions. The evidence adds on existing literature about the role of different types of shareholders on earnings quality in the context of high ownership concentration like Thailand. Additionally, this could

contribute to regulators and accounting standard setters to develop accounting standards and to ensure that required standards are appropriately applied as their objectives.

Thirdly, this study uses long-term data covering periods before and after the reforms, which allows it to compare the impact of ownership structure and other key corporate governance mechanisms on the use of accounting discretion between the two periods. In fact, it has not been well understood whether the reforms have helped to improve accounting quality (for example, by limiting managers' opportunistic accounting discretion) in practice or not. Therefore, this study provides evidence that will show whether the reforms have functioned as they were intended to. At least, the reforms may have helped to limit the use of (opportunistic) accounting discretion, in turn enhancing the quality of reported earnings.

Finally, there has been an on-going debate on the appropriate measurement for the magnitude of accounting discretion. Much research has focused on the accruals<sup>3</sup> component of earnings as the main source of accounting discretion. However, current accruals-based approaches still have some limitations, which may lead to errors (McNichols, 2000, 2002). This study therefore applies accruals-based approaches as well as revenue-based approaches (Stubben, 2010) to measure the magnitude of managers' accounting discretion. This study also attempts to investigate the possibility of improving the validity of discretionary accruals in term of credit sales, by integrating both sets of approaches. Unfortunately, the integrated proxies do not improve the measurement of discretionary accruals from the existing models, which suggests that it is better for researchers to apply each approach separately.

This chapter will be organised as follows: Section 5.2 will begin with a literature review and develop hypotheses on the impact of ownership structure and other corporate governance mechanisms on managers' accounting discretion. The research design will be presented in Section 5.3, and sampling and data collection will be described in

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<sup>3</sup> Specifically, they measure accounting discretion on either general accruals (for examples, see DeAngelo, 1986; Dechow et al., 1995; Healy, 1985; Jones, 1991; Kothari et al., 2005) or specific accruals (for examples, see Beatty et al., 1995; McNichols and Wilson, 1988; Moyer, 1990).

Section 5.4. The univariate and multivariate analyses will be discussed in Sections 5.5 and 5.6, respectively, and the last section will provide the conclusion and shed light on remaining arguments for further chapters.

## **5.2 Literature Review and Hypothesis Development**

### **5.2.1 The Role of Ownership Structure and Accounting Information from Contracting and Agency Theory Perspectives**

As discussed in Chapter 2, contract parties<sup>4</sup> write an initial contract to divide a firm's cash flows between them (Christie and Zimmerman, 1994; Fama and Jensen, 1983). Rational self-interests of contract parties limit particular parties to writing the contract in the way that enables them to transfer wealth from other contract parties. However, it is difficult to write completed contracts in an imperfect world<sup>5</sup> (Hart, 1995a), and contract parties may bear agency costs as a result of a breach of contract (Watts and Zimmerman, 1986).

Fan and Wong (2002) argue that the nature of contracting and accounting information flows may be affected by ownership structure. In corporations with dispersed ownership, a manager is in the position of an owner's steward. It is reasonable to believe that self-interested managers may act for their own benefit, in turn affecting the distribution of cash flows to shareholders. Adam Smith (1776), cited by Jensen and Meckling (1976, p.305), suggests that

“...being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company.”

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<sup>4</sup> “Contracting parties” refers to (1) internal parties, such as shareholders, dominant shareholders, management and employees, and (2) external parties, such as potential investors, creditors, suppliers and customers (Watts and Zimmerman, 1990). This chapter focuses mainly on shareholders.

<sup>5</sup> An imperfect world is one in which transaction costs and information asymmetry do exist.

In order to minimise conflicts of interest, rational shareholders demand monitoring and incentive contracts,<sup>6</sup> to monitor what managers actually do and to provide them with an incentive to align their interests with those of other shareholders (Christie and Zimmerman, 1994; Ronen and Yaari, 2008; Watts and Zimmerman, 1986). This demand emphasises the role of accounting information<sup>7</sup> as a stewardship<sup>8</sup> mechanism to constrain managers to act on behalf of shareholder interests (Armstrong et al., 2010; Ronen and Yaari, 2008; Watts and Zimmerman, 1978, 1986). Hence accounting numbers are commonly used as key performance indicators in various types of contract, such as management compensations or debt contracts (Watts and Zimmerman, 1986).

However, contracts based on accounting numbers are not always sufficient to align managers' interests with those of shareholders if managers have full control over the use of accounting discretion in reported accounting numbers (Watts and Zimmerman, 1990). While an ex ante contract may limit managers to choosing a firm's accounting methods and policies from an "accepted set"<sup>9</sup> of accounting standards, it would be better for other contract parties to allow managers to exercise some, but not all, accounting discretion (Christie and Zimmerman, 1994; Watts and Zimmerman, 1990).

In contrast, corporations with concentrated ownership normally have an owner (a dominant shareholder) who gains efficient control of the firm, leading to fewer conflicts of interest between managers and dominant shareholders. In fact, dominant shareholders normally participate in a firm's operation, either in management positions or in the process of selecting managers (Armstrong et al., 2010), and this allows them to influence the distribution of cash flows among contract parties (Fan and Wong, 2002).

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<sup>6</sup> This study focuses on contracts that aim to resolve the agency problem that arises from the conflict of interests among contract parties.

<sup>7</sup> Literature also uses a term "accounting numbers" which are viewed in the same way as accounting information is (Schipper, 1989).

<sup>8</sup> Another role of accounting information (earnings) that is addressed in the literature is in informativeness, which responds to the demands of investors to use accounting information to make decisions on the provision of economic resources to firms (Renan and Yarri, 2008; IASB, Conceptual Framework).

<sup>9</sup> According to Watts and Zimmerman (1990: 136), the accepted set is "the set of accounting procedures within which managers have discretion". This is another set of restrictions that the contract parties determine to be the "best" or the accepted accounting principles for each firm, in addition to the mandatory accounting standards. Therefore, managerial accounting discretion is expected to vary across firms, with different costs and benefits being incurred from the restrictions.

Therefore, firms with concentrated ownership may be faced with another form of conflict of interests, which occurs between dominant and minority shareholders.

In such cases, the role of accounting information in stewardship may not be as profound as it is in the context of dispersed ownership. Fan and Wong (2002) argue that accounting information is limited to the public in firms with concentrated ownership, because a dominant shareholder/manager may rely primarily on private sources of information. In many cases, their efficient control enables dominant shareholder/managers to influence firms' accounting policies. Minority shareholders may recognise this conflict and therefore not give much credit to the reported accounting numbers, believing that the dominant shareholder or manager may report accounting information for its owned interests. In turn, minority shareholders may lower the share prices<sup>10</sup> of firms with concentrated ownership and demand high quality accounting information in order to mitigate the risk of exploitation by a dominant shareholder/manager (Fan and Wong, 2002; Wang, 2006). This may also lead to pressure to adopt international accounting standards and to improve corporate transparency in concentrated ownership environments such as Asian countries (World Bank, 1998).

## **5.2.2 Managers' Accounting Discretion**

### ***5.2.2.1 Definitions***

Accounting standards (IFRSs, US GAAP) intentionally allow managers to use their judgment in preparing financial reports. With specific knowledge, a manager or dominant shareholder-manager is expected to choose accounting methods and policies for records, estimates and disclosures that are appropriate to a firms' business economics (Field et al., 2001; Healy and Wahlen, 1999).

However, at the same time, the flexibility of accounting standards provides opportunities for the manager or dominant shareholder-manager to exercise accounting discretion

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<sup>10</sup> To reduce the effect of price-protection, dominant shareholders may give a commitment to produce high quality financial reporting and disclosure.



based on his/her “self-serving information”<sup>11</sup> (Field et al., 2001; Healy and Wahlen, 1999). Hence the exercise of accounting discretion may lead to (1) an increase in the wealth of all contract parties or (2) an increase in a manager or dominant shareholders’ wealth (Watts and Zimmerman, 1990). The latter refers to “managerial opportunism”, in which wealth transfers to managers or dominant shareholder-managers and, in turn, creates costs for other contract parties.

This study examines the opportunistic use of accounting discretion.<sup>12</sup> Consistent with Healy and Wahlen’s (1999, p.368) definition, opportunistic accounting discretion is defined as a judgment in financial reporting made by managers and/or dominant shareholder-managers with an intention to mislead some stakeholders (shareholders) about firm’s underlying economic performance or to adjust outcomes (reported accounting numbers) on agreed contracts.

#### ***5.2.2.2 Motivations for Opportunistic Accounting Discretion***

The opportunistic use of accounting discretion is a reflection of the conflict of interests (between managers or shareholders in firms with dispersed ownership and between dominant shareholders or minority shareholders in firms with concentrated ownership) that cannot be resolved within firms (for example, see Leuz et al., 2003). In this section, the term “manager” refers to either a manager or a dominant shareholder-manager who has control over the preparation of financial reporting.

The literature addresses many potential motivations for managers to engage in opportunistic accounting discretion (for examples, see Dechow et al., 1996; Healy and Wahlen, 1999; Watts and Zimmerman, 1990). Based on the existing literature, the motivations can be divided into 3 main categories: (1) contracting motivations, (2) capital market motivations and (3) political costs (regulatory and tax-related motivations).

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<sup>11</sup> For example, self-interested managers may choose accounting methods that aim to boost a firm’s earnings to meet bonus targets.

<sup>12</sup> Accounting discretion can be an efficient way to make financial reporting more informative for users (Healy and Wahlen, 1999), but distinguishing between efficient and opportunistic accounting discretion is beyond the scope of this study.

#### ***5.2.2.2.1 Contracting Motivations***

As discussed in Section 5.2.1, a contract is written in order to mitigate agency problems between contract parties. In most cases, accounting numbers are used as a benchmark to control and monitor a contract (Healy and Wahlen, 1999).

First, bonus or compensation plans are introduced to tie the interests of managers to those of other contract parties. Managers may be motivated to exercise accounting discretion in order to increase their bonus or compensation rewards, which are tied to accounting numbers, by increasing current earnings (Watts and Zimmerman, 1990). Researchers have investigated the relationship between accounting discretion (such as discretionary accruals) and earnings in the context of bonus plans and have provided evidence of income-increasing accounting discretion (for examples, see Gaver et al. 1995; Guidry et al. 1999). In addition, stock-based compensation may motivate managers to exercise accounting discretion in order to maintain high stock prices or to increase them in order to sell them later (Cheng and Warfield, 2005).

However, bonus plans may also lead to the use of accounting discretion to decrease earnings if managers intentionally use techniques such as deferred revenue to reduce current reported earnings if they do not meet a minimum threshold for bonus payment (Healy, 1985; Watts and Zimmerman, 1990). While the “taking a bath” technique has no affect on bonus payment for the current period, it may help managers to meet the threshold for bonus payment in the next period (Healy, 1985).

Secondly, the literature suggests that managers may be motivated to use accounting discretion in order to avoid the violation of debt covenants, possibly due to (1) a frequent use of financial leverage ratios, which are based on accounting numbers in debt covenants, or (2) the costs of debt covenant violation being high (Ghosh and Moon, 2010). Much research attempts to examine whether managers exercise accounting discretion when firms are close to violating their debt covenants, but evidence to support this is still mixed (Field et al., 2001; Healy and Wahlen, 1999). While some researchers have found little evidence that debt covenant violation is the main motivation for

accounting discretion (for example, see Healy and Palepu, 1990), others have found evidence of managers using accounting discretion to increase earnings when firms are close to violating their debt covenants (DeFond and Jambalvo, 1994; Bowen et al. 2008; Ghosh and Moon, 2010; Kim et al., 2010; Sweeney, 1994).

#### ***5.2.2.2.2 Capital Market Motivations***

The use of accounting information by market participants, such as securities analysts, market regulators or investors, for evaluating firm performance may motivate managers to exercise accounting discretion for capital market purposes (Healy and Wahlen, 1999). The motivations may derive from equity financing, short-term capital gains or the need to meet market or investors' expectations, for example.

Focusing on listed firms in the U.S. SEC Accounting and Auditing Enforcement Release (AAER), Dechow et al. (1996) found that the main motivations for managers' of these firms to use accounting discretion was to access additional financing at lower costs. DeAngelo (1988) argues that managers have incentives to use accounting discretion to report better firm performance in order to protect themselves from dissident shareholders in a proxy contest. Her findings suggest that dissident shareholders use reported earnings rather than stock prices as a reason to change managers, motivating current managers to increase earnings during an election campaign. However, she found that in the case of a successful change, new managers tend to use accounting discretion to reduce earnings and report increased earnings in the following year.

In addition, managers of firms that are more attractive to market participants may be motivated increase their earnings in order to meet the market expectations. For example, managers may want to manipulate investor's perceptions of a firm's performance in order to increase the short-term stock price (Dechow et al., 1996) and thereby benefit from capital gains by selling their shareholding at a higher price.

Focusing on accounting discretion over revenues, Callen et al. (2008) argue that firms may be motivated to exercise accounting discretion over revenue (violate GAAP) in order to avoid loss in market valuations. They found that market participants value "loss

firms” by their revenue growth and report evidence of a positive relationship between the ex ante probability of revenue manipulation and the number of years in which firms experience loss.

#### ***5.2.2.2.3 Political Costs, Regulatory and Taxes Motivations***

Furthermore, managers may be motivated to engage in accounting discretion in order to avoid political costs, regulatory violations or taxes. Firstly, Watts and Zimmerman (1990) suggest that large firms may incur political costs by reporting large profits, suggesting that it is costly for firms to disclose their monopoly profits or to convince politicians to issue laws and regulations that enhance their monopoly. Especially in Asian countries, Ball et al. (2003) suggest that firms owned by “ethnic minorities” may be faced with political costs; if they report large profits, they may come under pressure to redistribute their wealth to the majority population. On the other hand, firms may be forced to avoid reporting large losses if a government wants to avoid public blame, due to corporate failure, for example.

Secondly, regulations imposed by law or capital regulators may lead to the use of accounting discretion to meet regulatory requirements such as industry regulations, anti-trust investigations or other regulations that may be tied to accounting numbers. For example, banks in the US are required to maintain their capital above a minimum level, based on accounting numbers (earnings), and insurance companies are required to have good financial positions (Healy and Wahlen, 1999). The existing literature provides some evidence that banks engage in accounting discretion over loan loss provision (for example) in order to avoid violations of capital requirements (Beatty et al., 1995; Moyer, 1990; Leventis et al., 2011). Regarding other regulations, Jones (1991) found evidence of accounting discretion to decrease earnings (income-decreasing discretion accruals) during an import relief investigation in the US.

Finally, managers may be motivated to exercise accounting discretion for tax purposes (Ball et al. 2003). In fact, managers may choose accounting policies or methods that minimise tax expenses rather than reflect firms’ true performance. For example,

Guenther (1994) provides evidence that managers reduce earnings prior to changes in corporate tax rate.<sup>13</sup> Other authors suggest that managers may manage earnings via tax expenses or components of tax expenses (such as deferred taxes expenses) in order to meet analyst forecasts (Dhaliwal et al., 2004), or in order to avoid reporting a loss or a decline in earnings (Phillips et al., 2003). In Thailand, the Revenue Code requires conformity between financial and tax accounting when a firm calculates expenses for tax deduction. This may motivate managers to choose accounting policies or methods such as the depreciation method, by which they can minimise their tax payments.

In summary, the literature addresses many incentives that may motivate managers to engage in accounting discretion. Evidence on contracting and capital market motivations may imply that a failure to mitigate the agency problem among contract parties enhances the opportunistic use of accounting discretion in order to protect the interests of particular contract parties (managers), and may confirm the importance of corporate governance in minimising this problem. Nevertheless, other motivations imply that managers may be driven by external factors (politics, taxes).

### ***5.2.2.3 Measurement for Capturing Managers' Accounting Discretion***

There are many methods by which managers can exercise accounting discretion for opportunistic purposes,<sup>14</sup> including the manipulation of accounting estimates changes in accounting methods and choice of accruals. It is likely that managers prefer to exercise accounting discretion over accruals because it is less costly and more difficult to observe than other methods are (Young, 1999).

Consequently, much of the existing research uses total accruals (aggregate accruals) as a starting point in order to identify accounting discretion by managers (Dechow et al., 1995). Total accruals (TAC) have two components: non-discretionary accruals (normal accruals or NDAC) and discretionary accruals (abnormal accruals or DAC). While non-

<sup>13</sup> In the US, corporate taxes were reduced from 46% to 34% following the 1986 Tax Reform Act.

<sup>14</sup> Managers can also exercise judgment on real operational decisions such as accelerations in sales, alterations in shipment schedules or changes in R&D expenditures (for example, see Roychowdhury, 2006).

discretionary accruals are accounting adjustments to firms' cash flows that are based on accounting standards, such as the depreciation of fixed assets, discretionary accruals are adjustments that are chosen by managers for specific purposes.

McNichols (2000) classifies three main approaches to the measurement of DAC in the existing literature, based on aggregated accruals, specific accruals or the distribution of earnings, but none of them results in a perfect measurement.

Firstly, aggregated accruals approaches have been continually developed by researchers including Healy (1985), DeAngelo (1986), Jones (1991), Dechow and Dichev (2002), McNichols (2002), Dechow et al. (1995, 2003, 2012) and Kothari et al. (2005). A common element in their models is the estimation of the components of non-discretionary accruals. Discretionary accruals are calculated as the difference between total accruals and estimated non-discretionary accruals. The differences between the models lie in the way in which they divide total accruals into non-discretionary and discretionary components and in how well they capture changes in firms' economic circumstances.

Among others, the models of Healy (1985) and DeAngelo (1986) assume that non-discretionary accruals are constant over time. Therefore, total accruals from estimation periods (the current and last year) are used as a proxy for non-discretionary accruals. However, Dechow et al. (1995) and Kaplan (1985) argue that this assumption is impractical because non-discretionary accruals may change along with changes in economic circumstances<sup>15</sup>.

The Jones' (1991) model was the first to allow non-discretionary accruals to change over time, applying a regression approach in order to specify a linear relationship between total accruals and changes in economic circumstances, such as changes in sales and gross property, plants and equipment. Nevertheless, this model still cannot estimate non-

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<sup>15</sup> For example, changes in accounting receivables and inventories could be affected by a change in the level of sales and production.

discretionary accruals without errors, because some components (revenues) may be a part of discretionary accruals (Jones, 1991).

A series of aggregate accruals approaches have attempted to improve the efficiency of the Jones (1991) model by estimating non-discretionary accruals in terms of credit sales (a modified Jones model by Dechow, 1995), cash flows (Dechow and Dichev, 2002 by McNichols, 2002), normal credit sales (Dechow, 2003), firm performance (Kothari et al., 2005) and reversal factors (Dechow et al. 2012). Although all of the extended Jones models have their limitations, which lead to systematic errors in estimation, the Jones and modified Jones models are the most powerful (Dechow et al. 1995; Young, 1999) and popular (McNichols, 2000).

Secondly, a limited number of studies have attempted to measure accounting discretion based on the behaviour of specific accruals such as allowances for bad debts (McNichols and Wilson, 1988) or provisions for loan losses in banks (Beatty et al., 1995; Moyer, 1990; Leventis et al., 2011). This approach requires researchers to identify a specific context, such as a specific industry setting, which is believed to motivate the use of accounting discretion over particular accruals. Then, normal and abnormal accruals are identified based on the behaviour of the specific accruals. Using a single accrual allows researchers to identify key factors that influence its behaviour and to determine how it is managed, reducing the possibility of errors in measurement (McNichols, 2000; Stubben, 2010). However, this approach requires more institutional knowledge and data in order to identify managers' incentives to exercise accounting discretion over the single component. As a result, research using specific accruals approaches is limited to a smaller sample than research using aggregate accruals approaches (McNichols, 2000). Additionally, this approach ignores managers' accounting discretion that may be present in other accruals accounts (McNichols and Wilson, 1988).

Finally, the distribution approach is another method, which attempts to test whether managers use accounting discretion to achieve a benchmark (zero earnings). Researchers take a frequency of earnings (after accounting discretion) that is above or below the

earnings benchmark as evidence of accounting discretion to avoid losses or decreases in earnings, for example (Burgstahler and Dichev, 1997). However, McNichols (2000) claims that this approach attempts to make a specific prediction on firms that tend to engage in accounting discretion rather than to measure the magnitude of opportunistic accounting discretion by managers.

Subsequently, Stubben (2010) has suggested using sales revenues rather than aggregate accruals to measure accounting discretion. He argues that revenues are only one component of earnings and are likely to be manipulated by managers.<sup>16</sup> He develops a model for measuring accounting discretion with “discretionary revenues” rather than discretionary accruals. This discretionary revenue model is based on a linear relationship between reported revenues and account receivables and focuses on discretionary revenues<sup>17</sup> derived from “premature revenue recognition”,<sup>18</sup> which is a common type of accounting discretion over revenues. Stubben (2010) asserts that the discretionary revenue derived from the revenue model and conditional revenue model detects not only the accounting discretion over revenues but also the accounting discretion over earnings. He concludes that the models based on revenues are “less biased and better specified than accrual models” (p.711).

In conclusion, all of the approaches discussed above have limitations. Although a large amount of existing research uses models based on aggregate accruals, critics argue that they estimate discretionary accruals inconsistently and are prone to error (Bernard and Skinner, 1996; Dechow et al., 1995; Dechow et al., 2012; Kang and Sivaramakrishnan, 1995). While models based on specific accruals are better in terms of finding out which and how accruals are managed (McNichols, 2000), their results can only explain the use of accounting discretion for a specific group, such as an industry, but not in general.

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<sup>16</sup> Dechow and Schrand (2004: 42 - 43) report that almost 70% of listed firms in the U.S. SEC Accounting and Auditing Enforcement Release (AAER) were involved in revenue and related accounts misstatement (accounts receivable and provisions for bad debt).

<sup>17</sup> “Discretionary revenues” occur in many forms of accounting discretion such as sales discounts and uncorrected revenue recognition (Stubben, 2010).

<sup>18</sup> Premature revenue recognition includes bill and hold sales, channel stuffing or revenues recognition in a way that violates accounting standards (Stubben, 2010: 699).



Finally, Stubben's (2010) model may mitigate errors that arise in aggregate accruals models, because it focuses only on discretionary revenue, but the fact that it ignores other accruals components may prevent it from capturing accounting discretion that arises from them.

### **5.2.3 The Impact of Ownership Structure on Managers' Accounting Discretion**

Ownership is one of the main sources of the agency problem between managers and shareholders or dominant and minority shareholders. Opportunistic accounting discretion is a result of the agency problem, which cannot be fully eliminated by the governance structure of a firm. Therefore, ownership structure may be a factor that influences opportunistic accounting discretion.

This section focuses on the ways in which accounting discretion is affected by (1) ownership concentration and the presence of dominant shareholders; (2) ownership concentration, its types, and the presence of dominant shareholders and their types; and (3) managerial ownership.

#### ***5.2.3.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Managers' Accounting Discretion***

As discussed in Chapters 2 and 4, levels of share ownership influence the degree of alignment of interests between managers and shareholders or dominant shareholders and minority shareholders. There are two competing views on the ways in which incentive effects are able to affect managers' accounting discretion.

Firstly, the alignment effect suggests that the large shareholder, with a substantial proportion of shares, has a higher motivation and ability to participate in monitoring processes than small shareholders have (Jensen and Meckling, 1976; Shleifer and Vishny, 1986), because their wealth can be reduced as a result of mismanagement. In many cases, dominant shareholders also gain sufficient control over a firm's operations when the proportion of their shares reaches a particular threshold, such as 20% or 25%.

Therefore, high ownership levels, especially in terms of cash flow rights, may prevent dominant shareholders from gaining private benefits because it is too costly for them to do so (Fan and Wong, 2002). Additionally, high ownership concentration can be viewed as a “credible commitment” for minority shareholders, such that a dominant shareholder will not exploit corporate assets (Fan and Wong, 2002).

Therefore, the alignment effect suggests that increasing ownership concentration to a particular threshold may reduce the conflict of interests between dominant shareholders and minority shareholders, if they are motivated to monitor financial reporting, and thereby limit the opportunistic accounting discretion of managers.

However, high levels of ownership concentration may lead to entrenchment effects, allowing dominant shareholders to apply pressure on managers to, for example, report firm performance in their interests, while creating cost to other shareholders (Zhong et al. 2007). Similarly, dominant shareholders may exploit corporate assets to gain benefits, such as “self-dealing transactions”, that transfer profits to their own private firms. Such exploitation can be carried out at little cost compared to the potential benefits (Fan and Wong, 2002).

Regarding accounting discretion, it is likely that dominant shareholders who gain sufficient control in a firm will influence the preparation of financial reports. They may also limit the flow of information to the public in order to avoid political costs or hide their exploitation of corporate assets (Fan and Wong, 2002), thereby reducing corporate transparency and misleading minority shareholders. Therefore, the entrenchment effect<sup>19</sup> predicts that increased ownership concentration or the presence of a dominant shareholder may increase the opportunistic use of accounting discretion by managers.

Evidence from the literature is mixed and limited. Azofra et al. (2003) found that ownership concentration, measured by the ownership of the top five largest

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<sup>19</sup> Fan and Wong (2002) suggests that an entrenchment effect in the context of dominant shareholders is similar to the managerial entrenchment suggested in literature (for example, see Morck et al., 1988), because dominant shareholders with high levels of ownership can avoid being governed by the board of directors and market disciplines.

shareholders, was associated with low absolute value of discretionary accruals in Spanish listed firms, suggesting that large shareholders played an active role in corporate monitoring processes that reduced the conflict of interests over choices of accounting policy.

In contrast, Zhong et al. (2007) focused on the effect of outside blockholders on discretionary accruals in the US. They found that firms that experienced a decline in pre-managed earnings tended to engage in income-increasing earnings management. Furthermore, they found a positive relationship between ownership by outside blockholders who did not manage the firms (less than or equal to 5%) and discretionary accruals, supporting the suggestion of an entrenchment effect in which the presence of outside managers tends to increase pressure on managers to report high firm performance.

More recently, in research on listed firms in the Casablanca Stock Exchange, Morocco, Farooq et al. (2012) found a negative effect from the presence of the largest shareholders on absolute value of discretionary accruals, but they found no significant relationship between the ownership of the largest shareholders<sup>20</sup> and absolute value of discretionary accruals.

In summary, evidence from existing literature is still mixed and is limited, especially in Asian countries. In the context of Thailand, the evidence from Chapter 4 strongly supports the alignment effect and suggests that the ownership concentration/the presence of a dominant shareholder can help to align interests of the largest shareholders/the dominant shareholders to their firms' interests leading to high firm performance. Therefore, this study proposes hypotheses based on the alignment effect predicting that the higher ownership concentration, the lower use of accounting discretions.

*H<sub>a1</sub>: Ownership concentration has a negative impact on accounting discretion.*

*H<sub>a2</sub>: The presence of a dominant shareholder has a negative impact on accounting discretion.*

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<sup>20</sup> They define the level of ownership concentration according to the ownership of the largest shareholders.

### ***5.2.3.2 The Impact of Ownership Concentration, by Shareholder Type, and the Presence of Dominant Shareholders, by their Type, on Managers' Accounting Discretion***

The existing literature suggests that different types of shareholder may have different incentives to monitor the use of accounting discretion by managers. Based on the main identities of shareholders in Thai listed firms, this study focuses on shareholders who are family, government, a foreign company, a domestic company or an institutional investor (bank and financial institutions).

#### ***5.2.3.2.1 Family***

As highlighted in previous chapters, existing literature in favour of the alignment effect suggests that family ownership can help to align the interests of a family towards firm value maximisation. A family firm is likely to be managed by family members, which may limit the conflict of interests arising from the separation of ownership and control. In addition, the close relationships between family members help to improve the efficiency of communication and monitoring processes (through the observation of managers' efforts, for example). Therefore, a family firm is less likely to motivate its managers by rewards tied to earnings-based performance, and the lower use of earnings-based performance in family firms may reduce the family's incentive to manage earnings (Ali et al., 2007).

Additionally, experience built up in family businesses (for example, through long-term relationships with management, suppliers or customers) contributes to the ability of family members to detect or mitigate opportunistic accounting discretion by managers (Ali et al., 2007; Smith and Amoako-Adu, 1999). A family's attitude towards their firm (love, trust and loyalty among family members), long-term investment goals and concern for reputation may also limit managers' motivation to engage in opportunistic accounting discretion.

However, existing literature in favour of the entrenchment effect argues that high levels of family ownership facilitate the entrenchment of family managers. Family attitudes

may motivate the family to focus on benefits to their group rather than to other shareholders. For example, dominant family shareholders are likely to engage in accounting discretion in order to hide related parties' transactions among the family's business groups. In addition, private communication between family managers may limit the flow of information to other shareholders. Therefore, if the family's interest diverges from firm value maximisation, dominant family shareholders may increase opportunities for opportunistic accounting discretion at the expense of other shareholders.

Focusing on the US listed firms in the S&P 500, Jiraporn and DaDalt (2009) found that US family firms were less likely to engage in accounting discretion over accruals than non-family firms were. Similarly, Wang (2006) found a negative relationship between founding family ownership and absolute discretionary accruals, indicating the low use of discretionary accruals in founding family firms. He also found that founding family ownership was associated with higher earnings quality than non-family ownership in terms of high informativeness and a lower persistence of transitory loss components in earnings. Although Wang (2006) only focused on founding family ownership, his evidence supports the notion that different types of shareholder have different motivations to exercise accounting discretion.

Ali et al. (2007) compared corporate disclosure (quality of reported earnings,<sup>21</sup> voluntary disclosure on corporate governance and managements' poor earnings forecasts) in US family<sup>22</sup> and non-family listed firms in the S&P500. They found a negative relationship between family firms and performance-adjusted discretionary accruals, indicating that family firms engaged less in accounting discretion than non-family firms did and, in turn, had higher earnings quality than non-family firms did. They also found that the quality of reported earnings from family firms was higher than that of non-family firms in terms of predicted future cash flows. Overall, their findings suggest that family firms

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<sup>21</sup> Proxies of earnings quality in Ali et al. (2007) include (performance-adjusted) discretionary accruals, earnings persistence and earnings response coefficients.

<sup>22</sup> Ali et al. (2007) recognise the classification of family firms in Business Week's special issue on family firms (on 10 November 2003).

suffer less from agency problems, which results in less opportunistic use of accounting discretion than can be found in non-family firms.

Evidence from US listed firms underlines the relationship between family ownership and accounting discretion in the context of more dispersed ownership. In contrast, research from outside the US mainly provides evidence of the relationship in the context of concentrated ownership. For example, Cascino et al. (2010) and Prencipe et al. (2008) focused on samples of Italian listed firms. While Cascino et al. (2010) measured earnings quality, with various earnings properties,<sup>23</sup> Prencipe et al. (2008) focused on a specific type of accruals (research and development cost capitalisation). Both studies report higher earnings quality for family firms than for non-family firms.

However, Prencipe et al. (2008) found that, unlike non-family firms, family firms are likely to engage in accounting discretion in order to avoid the violation of debt covenants, because they do not want to lose their control.

Finally, Hashim and Devi (2009) also found a positive relationship between family ownership and accruals quality in Malaysian listed firms.

In summary, evidence from existing literature is still mixed and is limited. In the context of Thailand, the evidence from Chapter 4 strongly supports the alignment effect in family owned/controlled firms. Therefore, this study proposes hypotheses based on the alignment effect predicting that the higher family block ownership/the presence of a dominant family shareholder, the lower use of accounting discretions.

*H<sub>a3</sub>: Family block ownership has a negative impact on accounting discretion.*

*H<sub>a4</sub>: The presence of a dominant family shareholder has a negative impact on accounting discretion.*

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<sup>23</sup> Earnings properties in Cascino et al., 2010) include accruals quality, persistence, predictability and smoothness.

### 5.2.3.2.2 Government

As discussed in the previous chapters, governments can take an active role in monitoring if their objective is close to firm value maximisation (Le and Buck, 2011). Therefore, the alignment effect suggests that dominant government shareholders will limit the use of accounting discretion by managers. However, if a government is more concerned with other objectives, such as social welfare and political goals, it may facilitate accounting discretion in order to meet an expected threshold, for example (Chen et al., 2008).

Research into the relationship between government ownership and accounting discretion has been carried out intensively in China. For example, Ding et al. (2007) examined relationship between dominant shareholder ownership and earnings management (discretionary accruals and the ratio of non-operating income to sales) by comparing state-owned with privately owned enterprises. They found that state-owned enterprises were less likely to engage in accounting discretion than privately owned enterprises were. Their evidence also suggests an “inverted U-shape” form to the relationship: the positive relationship was found at low levels of government ownership and it became negative when the government owned over 55%–60% of shares.

Evidence from Wang and Yung (2011) also confirms that state-owned enterprises used less discretionary accruals than privately owned enterprises, after controlling for the effect of tunnelling.<sup>24</sup> They also found that the lower levels of accounting discretion<sup>25</sup> in state-owned firms may have been a result of government protection<sup>26</sup> (guaranteed sales or the purchase of material at agreed levels), which reduced the incentive for managers to manipulate earnings, rather than of better monitoring.

However, different types of government may have different incentives for exercising accounting discretion. For example, Chen et al. (2008a) found evidence of collusion

<sup>24</sup> Wang and Yung (2011) used the ratio “non-operating income to sales” as a proxy for tunnelling.

<sup>25</sup> Wang and Yung (2011) also used accruals quality as a measurement of accounting discretion. While they found consistent results before the Chinese market liberalisation, the relationship become insignificant after the market liberalisation.

<sup>26</sup> Wang and Yung (2011) found that state-owned enterprise’s accounts (accounts receivables, inventories and accounts payables) are less volatile across periods of study.

between a local government and listed firms under its control, in the form of a government subsidy to increase earnings in order to avoid delisting regulation. In addition, Wu et al. (2012) found that, overall, the quality of earnings in stated-owned firms was lower than that in private firms, foreign firms and society-owned firms. They suggest that the State Assets Management Bureau (SAMB), which controls stated-owned firms, may have less incentive or ability to monitor firms than other types of dominant shareholder do.

In summary, evidence from existing literature is still mixed and is limited. In the context of Thailand, no evidence of exploitation in government owned/controlled firms was found from Chapter 4. Therefore, this study proposes hypotheses based on the alignment effect predicting that the higher government block ownership/the presence of a dominant government shareholder, the lower use of accounting discretions.

*H<sub>a5</sub>: Government block ownership has a negative impact on accounting discretion.*

*H<sub>a6</sub>: The presence of a dominant government shareholder has a negative impact on accounting discretion.*

### **5.2.3.2.3 Foreign Companies**

Large proportions of share ownership may align the interests of foreign companies towards firm value maximisation. Therefore, foreign companies, as dominant shareholders, may be motivated to provide good monitoring to the firms in which they invested (Boardman et al., 1997). In addition, foreign companies from developed markets, such as the UK and the US, may motivate firms to prepare high quality financial reports by increasing the demand for high quality accounting standards and corporate governance (Aggarwal et al. 2005; Jeon and Ryoo, 2013).

Jeon and Ryoo (2013) argue that, unlike domestic companies,<sup>27</sup> foreign investors help firms to appoint non-executive directors who are independent from dominant

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<sup>27</sup> Domestic companies may be less independent if they come from the dominant shareholders' business group.



shareholders. Therefore, the alignment effect suggests that firms with foreign companies as dominant shareholders may inhibit opportunistic accounting discretion.

In contrast, the long distance between parent and subsidiary companies may lead to inefficient monitoring by foreign investors and provide some opportunities for managers to exercise accounting discretion (Boardman et al., 1997; Wiwattanakantang, 1999).

Existing research provides evidence that foreign ownership enhances firm performance. Ferreira and Matos (2008) examined a sample of firms in 27 countries and report that firms with higher ownership by foreign and independent investors (who had no business relationship with the firms in which they invested) were likely to have better firm performance. In China, Wu et al. (2012) also found that foreign owned companies engaged less in accounting discretion than state-owned firms did. In the Korean capital market, Jeon and Ryoo (2013) found evidence that foreign ownership was positively associated with the proportion of outside shareholders. They suggest that dominant foreign shareholders are likely to prevent firms from appointing non-executive directors, increasing their ability to influence corporate policy and leading to higher dividend payments.

Nevertheless, existing research that examines the effect of foreign ownership on accounting policy and accounting discretion is still very limited. In the context of Thailand, no evidence of exploitation in foreign company owned/controlled firms was found from Chapter 4. Therefore, this study proposes hypotheses based on the alignment effect predicting the higher foreign company block ownership/the presence of a dominant foreign company shareholder, the lower use of accounting discretions.

*H<sub>a7</sub>: Foreign company block ownership has a negative impact on accounting discretion.*

*H<sub>a8</sub>: The presence of a dominant foreign company shareholder has a negative impact on accounting discretion.*

#### ***5.2.3.2.4 Institutional Investors (Bank and Non-Bank Financial Institutions)***

Although research on the impact of institutional investors on accounting discretion is limited, other research into their impact on corporate governance and performance offers some insight into the motivations for institutional investors to monitor managers.

As discussed in Chapter 2, factors influencing the degree of monitoring by institutional investors include their independence (Brickley et al., 1988; Ferreira and Matos, 2008) and their investment objectives (long-term or short-term investment horizons). Bushee (1998) suggests that large shareholdings reduce the incentive for institutional investors to invest in the short term, thereby increasing their incentives to participate in monitoring processes.

Nevertheless, Gillan and Starks (2007) argue that monitoring is costly and that institutional investors with a large proportion of shares are therefore likely to be active in monitoring processes only if their investment return is large enough to compensate them.

Evidence of the role of institutional investors in monitoring accounting discretion shows mixed results. Focusing on aggregate institutional investors, Charitou et al. (2007) examined distressed firms in the US to investigate (1) whether their managers were motivated to exercise accounting discretion over earnings or not and (2) the role of institutional ownership in mitigating this discretion. They found that managers had incentives to decrease earnings prior to filing for bankruptcy. In addition, they found a positive and significant relationship between institutional ownership (two years before bankruptcy filing) and discretionary accruals (prior to bankruptcy filing), suggesting that ownership by institutional investors may help to prevent managers of distressed firms from under reporting earnings prior to filing for bankruptcy.

The literature also suggests that different incentives for each type of institutional investor (short or long-term horizon investors) lead to different degrees of monitoring. For example, Bushee (1998) examined whether ownership by institutional investors

helped to limit or enhance managers' use of accounting discretion. He focused on managers' decision to cut research and development (R&D) expenses as a strategy to boost short-term earnings. He found that firms with high institutional ownership were less likely to cut R&D expenses, supporting the view that institutional investors are sophisticated and are likely to provide good monitoring. However, he found that incentives for managers to cut R&D expenses, in order to boost short-term earnings, increased when firms were substantially owned by institutional investors with short-term investment goals (those who had high portfolio turnovers and used momentum-trading methods).

Koh (2003) examined the relationship between institutional ownership and aggressive use of accounting discretion in Australian listed firms. He found a positive (negative) relationship between institutional ownership and income-increasing discretionary accruals at low (high) levels of institutional ownership. The positive relationship at low levels of institutional ownership supports the view that short-term institutional investors drive managers to misuse accounting discretion. The negative relationship at higher levels of institutional ownership implies better monitoring is provided by long-term institutional investors.

Focusing on listed firms in the US, Koh (2007) classified sample firms into those that had and did not have incentive and ability to use accounting discretion (discretionary accruals) to beat their targets (group 1 and group 2, respectively). He found evidence that long-term institutional ownership helped to limit the use of discretionary accruals only for firms in group 1. He also found that pressure-sensitive investors, such as banks and insurance companies, were positively related to discretionary accruals only for firms in group 1, which exercised discretionary accruals to avoid having to report loss or decline in earnings.

Later, Hidani et al. (2011) found a negative impact from the largest institutional investors on discretionary accruals in the US. They suggest that a large proportion of

shares held by the largest institutional investors motivate them to provide efficient monitoring to restrain accounting discretion.

In summary, evidence from existing literature is still mixed and is limited. In the context of Thailand, no evidence of exploitation in bank company owned/controlled firms was found from Chapter 4. In addition, there is evidence that firms with the presence of a dominant non-bank financial institution shareholder perform better than firm without it. Therefore, this study proposes hypotheses based on the alignment effect predicting the higher bank/non-bank financial institution block ownership/the presence of a dominant bank/non-bank financial institution shareholder, the lower use of accounting discretions.

*H<sub>a9</sub>: Bank block ownership has a negative impact on accounting discretion.*

*H<sub>a10</sub>: The presence of a dominant bank shareholder has a negative impact on accounting discretion.*

*H<sub>a11</sub>: Non-bank financial institution block ownership has a negative impact on accounting discretion.*

*H<sub>a12</sub>: The presence of a dominant non-bank financial institution shareholder has a negative impact on accounting discretion.*

### **5.2.3.3 The Impact of Managerial Ownership on Managers' Accounting Discretion**

As discussed in Chapter 2, managerial ownership can either align managers' interests to or diverge them from those of shareholders. Therefore, it could also affect to managers' motivation to avoid or engage in misused of accounting discretions.

Evidence from existing literature, classified by patterns of ownership structure (dispersed or concentrated ownership), provides mixed results. Earlier research has focused on countries, such as the US, where the ownership tends to be diffuse. For example, Warfield et al. (1995) examined the relationship between managerial ownership and managers' accounting choices (absolute discretionary accruals) and found a negative association between managerial ownership and absolute discretionary accruals. They also report a doubling of absolute discretionary accruals in firms with

low managerial ownership (<5 percent) compared to firms with high levels of managerial ownership ( $\geq 35$  percent), revealing some evidence of a non-linear relationship between managerial ownership and accounting discretion. They suggest that managers with low ownership have greater incentives to exercise opportunistic accounting discretion (in order to mitigate a restriction in accounting-based provision, for example).

In contrast, Chen and Lee (1995) found that managers of US firms in the oil and gas industry exercised accounting discretion in order to increase earnings and achieve annual bonus targets. Cheng and Warfield (2005) found that managers with high equity incentives (from stock based compensation or share ownership) tended to sell their shares after earnings announcements and that they tended to report earnings to meet or just beat analyst forecasts so that they could receive capital gains from selling their stocks at a higher price. These findings show the conflict of interests between managers and firms and suggest that managerial ownership motivates managers to engage in accounting discretion.

Other research focuses on countries in which ownership is concentrated. For example, Gabrielsen et al. (2002) found a positive but insignificant relationship between managerial ownership and absolute discretionary accruals in Danish listed firms in regulated industries (transportation and utilities firms). They suggest that, where their findings differ from those of Warfield et al. (1995), this may be a result of the higher ownership concentration and smaller size of Danish listed firms compared to US listed firms.

Yang et al. (2008) examined the relationship between board ownership and discretionary accruals in Taiwanese listed firms. Their overall evidence is consistent with Cheng and Warfield (2005) and Gabrielsen et al. (2002), showing a positive relationship. When they further classified director ownership into that of executive and non-executive directors, they found evidence of a non-linear relationship, with an “inverted U-shape” form, between executive director ownership and discretionary accruals. Hence the

higher levels of ownership by executive directors may have tied their interests to those of shareholders. However, they found a positive relationship between non-executive directors and discretionary accruals, indicating that directors may have been motivated by equity incentives to engage in accounting discretion, in order to increase stock price for future selling (for example).

In summary, evidence from existing literature is still mixed and is limited. With a combination of ownership and control, the evidence from Chapter 4 supports the alignment effect and suggests that the higher the managerial ownership, the higher firm performance. Therefore, this study proposes hypotheses based on the alignment effect predicting that the higher managerial ownership, the lower use of accounting discretions.

*H<sub>a13</sub>: Managerial ownership has a negative impact on accounting discretion.*

#### **5.2.4 The Impact of Other Corporate Governance Mechanisms on Managers' Accounting Discretion**

This chapter focuses on three main corporate governance mechanisms in the Thai capital market: board of directors, CEO characteristics and external auditors.

##### **5.2.4.1 Board of Directors**

As discussed in Chapter 3, shareholders appoint a board of directors as their representatives and delegate power to it in order to supervise and monitor management (Fama and Jensen, 1983). According to OECD (2004: 25), one of the key functions of the board of directors is

“Ensuring the integrity of the corporation’s accounting and financial reporting systems, including the independent audit, and that appropriate systems of control are in place, in particular, systems for risk management, financial and operational control, and compliance with the law and relevant standards.”

Therefore, the efficiency of a board of directors may affect the degree of accounting discretion by managers or dominant shareholders. According to Zahra and Pearce (1989), board attributes (composition, characteristics, structure and process) determine the efficiency of a board’s functions (service, strategy and control). This chapter focuses

on three key attributes of the board, (1) Board structure (Board size and Board independence) (2) Board experience and (3) CEO characteristics.

#### **5.2.4.1.1 Board Size**

As discussed in Chapters 2 and 4, too big a board of directors may lead to inefficient monitoring and a smaller board may perform better control and monitoring functions due to better communication and less likelihood of the free-rider problem among its members (Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996).

However, some research has found that larger boards may benefit larger firms (Coles et al., 2008) because they include wider expertise, which increases their ability to monitor top management. In addition, larger boards may have increased powers to govern a firm in shareholders' interests and to limit CEO dominance (Zahra and Pearce, 1989).

The existing literature provides evidence that links board size to accounting discretion. In the US, Beasley (1996) found that the likelihood of financial statement fraud decreases as the board size decreases. Ghosh et al. (2010), using samples from before and after the Sarbanes-Oxley Act, 2002 (SOX), found a significant positive relationship between board size and earnings management techniques, such as discretionary accruals, both before and after SOX, indicating that larger boards tended to be inefficient in detecting earnings management, even after SOX.

However, Xie et al. (2003) report a significant negative relationship between board size and discretionary accruals in the US, which suggests that larger boards may be better at monitoring accounting discretion because they have higher levels of expertise.

In Asian countries, Abdul Rahman et al. (2006) found a positive relationship between board size and earnings management in Malaysian listed companies, suggesting more conflict of interests in larger boards than in smaller boards. In contrast, Hashim et al. (2009) found that larger boards tended to have higher earnings quality (less use of discretionary accruals) in Malaysian listed firms. This contradictory evidence may have been caused by the difference in sample firms and years. While Abdul Rahman et al.

(2006) used a sample of the 100 top-listed firms in 2001, Hashim et al. (2009) included all non-financial listed firms in 2005. Furthermore, the Malaysian Code on Corporate Governance (2000) has been introduced since 2000 in order to improve corporate governance in listed Malaysian firms, and this may have improved directors' awareness of their responsibility and reduced conflict between them in firms with larger boards.

The literature discussed above suggests either positive or negative effects of board size on accounting discretion. In Thailand, Sukeecheep et al. (2013) could not find the significant relationship between board size and earnings management of non-financial listed firms during the year 2006 to 2010. Nevertheless, the evidence from Chapter 4 reveals an inefficiency of the bigger boards that leads to lower firm performance. A few research on board size and firm performance in Thailand such as Pathan et al. (2007) also found the negative impact of bank board size on firm performance during the year 1999 to 2003. Nevertheless, with the limited research in Thailand, this study proposes hypotheses based on inefficiency of large board of directors and expects that the bigger board size, the higher use of accounting discretions.

*H<sub>a14</sub>: Board size has a positive impact on accounting discretion.*

#### **5.2.4.1.2 Independence and Experience of Board of Directors**

As discussed in Chapter 2, a board consists of two main types of director: executive and non-executive directors. According to ICSA (2010), a balance of the two types of director is important to a board's efficiency.

The existing literature addresses the importance of board independence as a feature that can enhance board efficiency and academics and regulators have focused on the role of non-executive directors who are independent. As discussed in Chapter 2, Fama and Jensen (1983) suggest that non-executive directors help to solve the agency problem that may arise from incentive issues such as board compensation. In addition, they are more likely to provide efficient monitoring to executive directors and less likely to collaborate with executive directors in order to extract wealth from shareholders (Beasley, 1996). A



board of directors comprised of a high proportion of non-executive directors is expected to be more independent and therefore more effective.

Existing research in accounting reveals evidence that non-executive directors limit an opportunistic accounting discretion and fraud. In the US and the UK, Beasley (1996) found that firms experiencing fraud had lower proportions of independent directors than firms with no fraud did.

DeFond and Jiambalvo (1991) report that firms with audit committees had less overstatement of financial reporting than those without them had. Dechow et al. (1996) focused on firms that had violated the financial requirements of the U.S. SEC and found that either they had fewer audit committee members or fewer non-executive directors compared to other firms. Peasnell et al. (2000) examined whether the Cadbury report's recommendation on the role of non-executive directors affected earnings management or not. They found that managers tended to exercise fewer income-increasing accruals in order to avoid reporting loss in UK firms with high proportions of non-executive directors only in the "post-Cadbury period".<sup>28</sup> Klein (2002) and Davidson et al. (2005) found that the independence of audit committees and non-executive directors was negatively associated with (absolute) discretionary accruals.

However, Park and Shin (2004) found that only non-executive directors who were representatives of financial intermediaries<sup>29</sup> (as opposed to other types of non-executive director) helped to reduce the use of discretionary accruals in Canadian listed firms. They therefore argue that non-executive directors' knowledge of companies' business or accounting may enhance their ability to limit earnings management. In addition, they found no significant change in the effect of non-executive directors and discretionary accruals before or after the release of the Toronto Stock Exchange Corporate

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<sup>28</sup> In their study, the "post-Cadbury period" was from 1994 to 1995, after the Report of the Committee on the Financial Aspects of Corporate Governance (1992) (Cadbury Report) recommended that listed firms be aware of the role of non-executive directors.

<sup>29</sup> Financial intermediaries include commercial banks, insurance companies, investment banks, finance companies, mutual funds and pension funds.

Governance Guidelines of 1994, which recommends that firms have a high proportion of non-executive directors on their boards.

In the context of Asian countries, with highly concentrated ownership, Jaggi et al. (2009) found that board independence was a constraint to the use of accounting discretion to manipulate earnings in Hong Kong listed firms. However, research on Malaysian listed firms, such as Hashim and Devi (2009) and Abdul Rahman (2006), found no significant evidence of a relationship between board independence and the use of discretionary accruals. Their findings suggest that the knowledge of non-executive directors is more important to a board's monitoring function than the proportion of non-executive directors is.

Overall, the literature suggests two possible effects of the independence boards on accounting discretion, either positive or negative relationships with accounting discretion. In Thailand, the high ownership concentrations in most of Thai listed firms increase a demand for independent directors to check and balance the control of controlling managers. Therefore, it is not surprise that board independence is viewed as an important governance mechanism and is much more promoted by government and regulators after the financial crisis. Therefore, this study proposes hypothesis based on the objective of this structure to limit the opportunistic behaviour of managers and expects that the higher proportion of independent directors, the lower use of accounting discretions.

*H<sub>a15</sub>: Board independence has a negative impact on accounting discretion.*

Regarding board experience, existing literature suggests that board members who hold multiple directorships (e.g. take director position in other companies) may have more experience and knowledge, which could contribute to their ability to supervise management (Fama and Jensen, 1983; Ferries et al., 2003; Fich, 2005). For example, in the U.S., Ferries et al. (2003) found that the numbers of appointments held by a director are associated with high firm performance. In Asian countries, Banderlipe II (2009) in Philippine, Saleh et al. (2005) in Malaysia and Sukeechep et al. (2013) in Thailand

found that the independent directors who hold multiple directorial positions could help to limit earnings management.

However, some argue that directors who hold multiple board appointment may be too busy to efficiently monitor management of many companies (Ferries et al., 2003; Fich and Shivdasani, 2006). For example, in the U.S., Core et al. (1999) found that the presence of multiple directorships led to an excess of CEO compensation implying that these directors inadequate monitor managers. Fich and Shivdasani (2006) found that firms with multiple directorial directors are likely to have poor corporate governance and lower firm performance.

In summary, existing literature addresses that the multiple directorships could be viewed as either board experience/quality or board inefficiency. This study views the multiple directorships as a measurement of board experience. In fact, the network relationship and the connection with bank and government are addressed as important factors of firms' success in the Thai business, e.g. to rapidly respond to business environment change (e.g. Suehiro, 1993). Directors are come from other companies in firms' networks (including bank or government). Because opportunistic accounting discretion may be complicated and may need people who have more experience in business to discover it, this study hypothesises that the director experience measured by the multiple directorships may help the board to protect/limit the use of accounting discretions by managers.

*H<sub>a16</sub>: Board experience has a negative impact on accounting discretion.*

#### **5.2.4.2 CEO Characteristics**

This chapter focuses on four variables of CEO characteristics: CEO Duality (CEO-Chair), CEO founder, CEO descendant, who is a son or daughter of the company's founder and CEO-group (when the CEO belongs to the same group as the chairman). Note that, although most listed firms separate CEO from chairman roles, in many cases the CEO and chairman come from the same group (father and son). CEO-group is therefore included as another variable for CEO characteristics.

As discussed in Chapter 4, Jensen (1993) suggests that the independence of a chairman as a leader of board of directors is important for board efficiency. Therefore, the efficiency of a board in monitoring management may be reduced if CEO duality is present, as it may provide opportunities for CEOs to dominate boards. However, some research argues that CEO duality may reduce communication problems between CEOs and chairmen. In addition, separating two positions may create some costs to firms by, for example, (1) limiting the efficiency of CEOs to respond to changes in the business environment or (2) ignoring any valuable knowledge the CEO has that could help him/her to fulfil the chairman's functions (for example, see Brickley et al., 1997).

As discussed in Chapter 4, CEO founders may have control over firms (Morck et al., 1988) and be less accountable for their actions (Dechow et al., 1996), which would allow them to dominate the board. However, CEO founders' expertise and business connections may benefit firms (Morck et al., 1988; Polsiri and Wiwattanakantang, 2004), and their motivation to transfer the business to their descendants may make them less likely to manipulate earnings (Jiraporn and DaDalt, 2007). Nevertheless, it is also possible that they block firms from hiring professional managers who may be more competent than their descendants are (for example, see Mehrotra et al., 2013).

Regarding evidence on earnings management, Dechow et al. (1996) found that the firms that experienced financial misstatement by earnings manipulation in the US were likely to have either CEO founders or CEOs who also served as chairmen. However, Jiraporn and DaDalt (2007) found that founding family firms used fewer discretionary accruals than non-founding family firms did.

Some research has not found a significant relationship between CEO duality and earnings management: for example, Xie et al. (2003) (using current discretionary accruals) and Ghosh et al. (2010) (using absolute discretionary accruals before and after SOX, 2002). In Asian countries, Jaggi et al. (2009) found a negative relationship for CEO duality and no significant relationship for CEO duality in respect to earnings management (discretionary accruals) in Hong Kong listed firms. In addition, while

Abdul Rahman et al. (2006) found no significant relationship between CEO duality and discretionary accruals, Hashim et al. (2009) found that CEO duality enhanced earnings quality in Malaysian listed firms, casting doubt on the recommendation of the Malaysian Code on Corporate Governance (2000) for the separation of the position of the CEO from that of the chairman.

Overall, the literature suggests either positive or negative effects of CEO characteristics on managers' accounting discretion. In Thailand, CEO duality is likely to be presented in family controlled firms. Although the evidence from Chapter 4 suggests the alignment effect is strong in these firms, CEO duality may possibly reduce the effectiveness of the board to oversee the CEO. Therefore, this study hypothesises that CEO duality may reduce the board's effectiveness to review financial reporting leading to a great opportunity for manager to use of accounting discretion.

*H<sub>a17</sub>: The presence of CEO duality has a positive impact on accounting discretion.*

In Thailand, firms attempted to separate CEO and chairman positions to be comply with the good corporate governance guidance. However, it is possible that CEO and Chairman may come from the same group of people (i.e. father and son or relatives). This characteristic may reduce an independency of chairman and the board to supervise CEO. Therefore, this study hypothesises that the close relationship between CEO and chairman may reduce the board's effectiveness to review financial reporting leading to a great opportunity for manager to use of accounting discretion.

*H<sub>a18</sub>: The presence of a CEO and chairman who come from the same group has a positive impact on accounting discretion.*

As discussed in Section 3.3.1, Chapter 3, most of Thai firms' founders are still alive and most of them are likely to take a CEO position. The alignment effect in family controlled firms reported in Chapter 4 could imply that CEO founder may have less motivation to use the opportunistic accounting discretion because it may reduce the firms' reputation in long term. Their business experience may also increase their ability

to limit the use of opportunistic accounting discretions by other managers. Therefore, this study hypothesises that CEO founder may help to limit the use of opportunistic accounting discretions by managers.

*H<sub>a19</sub>: The presence of CEO founder has a negative impact on accounting discretion.*

However, research in Thailand such as Bertrand et al. (2008) found that firms managed by many founders' son are associated with lower firm performance. Their findings create a question on ability of the founders' descendants to run the family business as good as the founders do. Therefore, this study hypothesises that CEO descendants may not effectively to limit the use of opportunistic accounting discretions by managers.

*H<sub>a20</sub>: The presence of CEO descendants has a positive impact on accounting discretion.*

#### **5.2.4.3 Auditor Reputation and Expertise**

External auditors are viewed as a governance mechanism to inhibit opportunistic accounting discretion by managers or dominant shareholders (for examples, see Becker et al. 1998; Lawrence et al., 2011). Auditors audit a company's financial reporting and express their opinion on financial reports whether they are fairly presented in accordance with generally accepted accounting principles or not. According to Becker et al. (1998), auditors' report may help to reduce information asymmetry between managers and users of financial reporting (stakeholders), and audit quality may affect the degree of accounting discretion used by managers. This chapter focuses on two proxies of audit quality, as suggested by the literature: type of audit firm (BIG4 or NON-BIG4 audit firms) and auditor partner tenure.

##### **5.2.4.3.1 Auditor Reputation**

Given the fact that BIG4 audit firms are the four biggest auditing firms in the world, some research uses "BIG4" vs. "NON-BIG4" to define external audit quality (Becker et al. 1998). Research suggests that an audit firm's size may influence its incentive to provide high quality auditing (for example, see DeAngelo, 1981). Larger audit firms

normally have many clients and are therefore more likely produce high quality work in order to retain their reputation and their independence, because they have “more to lose” (DeAngelo, 1981: 184; Lawrence et al., 2011). In addition, larger audit firms may benefit from economies of scale and be motivated by their size and reputation to provide better training programs for their staff and to standardise audit methodologies and procedures through practices such as peer audit review (DeAngelo, 1981; Lawrence et al., 2011).

Research from the US provides evidence that BIG4 auditors help to limit accounting discretion. Becker et al. (1998) found that firms with BIG4 auditors used fewer discretionary accruals than firms with NON-BIG4 auditors did. Krishnan (2003) found that firms with BIG4 auditors used discretionary accruals in order to convey private information to investors rather than in an aggressive or opportunistic way. In fact, he found that discretionary accruals for BIG4 firms were positively associated with future profitability (2-year ahead stock return). Benh et al. (2008) found evidence suggesting that analyst forecast earnings were more accurate in firms with BIG4 auditors and other research also provides evidence that BIG4 audit firms tend to provide more accurate and useful information in auditors’ reports about financial difficulties such as the issue of going concerns (Lennox, 1999; Geiger and Rama, 2006).

However, some research argues that the size of audit firms alone should not make any difference to their quality of work because all auditors are regulated by the same professional standards (for examples, see DeAngelo, 1981; Lawrence et al., 2011). Louis (2005) suggests that smaller audit firms have competitive advantages in terms of better knowledge on local markets than larger firms do when it comes to helping their clients in specific circumstances (mergers and acquisitions). Lawrence et al. (2011) found no difference in audit quality between BIG4 and Non-BIG4 firms after controlling for client characteristics using “propensity-score matching models”.

Overall, the literature suggests either positive or negative impacts of BIG4 auditors on managers’ accounting discretion. In Thailand, Thai law restricts accounting

professionals to Thai nationals. Therefore, BIG4 audit firms have merged with large and famous Thai audit firms. Research about earnings quality in Thailand such as Herrmann et al. (2008) found that BIG4 audit clients reported more conservative earnings than Non-BIG4 clients, especially during the financial crisis in Thailand. Nevertheless, Thoopsamut and Jaikengkit (2009) could not find any significant relationship between audit firm size measured by the presence of BIG4 audit firms and quarterly earnings management during the year 2005 to 2006. Given the reputation and large size of the BIG4 audit firms in Thailand, this study hypothesises that auditors from the BIG4 audit firms have high ability to detect the use of opportunistic accounting discretion by managers.

*H<sub>a21</sub>: The presence of a BIG4 audit firm has a negative impact on accounting discretion.*

#### **5.2.4.3.2 Auditor Partner Tenure**

Accounting scandals in large corporations, such as ENRON, may indicate that the size of audit firms alone cannot guarantee high audit quality. Academics and regulators have focused on auditor independence, and long periods of auditor tenure may reduce auditor independence over time and result in low quality audits that fail, for example, to limit the opportunistic use of accounting discretion (Myers et al., 2003). This argument has led to recommendations that either audit partners or firms be rotated after a fixed period. For example, the Sarbanes-Oxley Act (2002) mandates firms to rotate their audit partner every five years. In Thailand, firms have also had to rotate their audit partners every five years since 2006<sup>30</sup>. Auditor rotation aims to solve the problem of continuing relationships between managers and auditors and new auditors may help to discover issues that have been overlooked (Carey and Simnett, 2006).

In contrast, practitioners argue that long audit tenure can enhance the efficiency of audit work, as auditors with long tenures are likely to have a growing knowledge of a firm's specific risks (Myers et al., 2003: 782), and their experience may help them to verify

<sup>30</sup> The Notification of the Securities and Exchange Commission, Thailand, No. Kor.Chor. 39/2548 (2005) requires listed firms to rotate their audit partner every five years, effective on 1 January 2006.



management discretion and estimations (Myers et al., 2003). In addition, audit rotation may create costs for new auditors or their client's firms (Myers et al., 2003).

Research on the link between auditor rotation and earnings quality was intensively conducted after SOX (2002). In general, researchers define "audit tenure" as the number of years for which firms have retained an auditor (either an audit firm or audit partner). In the US, Myers et al. (2003) found a negative relationship between audit tenure<sup>31</sup> and earnings management (discretionary accruals and current accruals), suggesting that lengthening auditor tenure helps to limit the exercise of accounting discretion for specific purposes (income-increasing/decreasing discretionary accruals). Similarly, while Johnson et al. (2002) found no evidence that firms with long audit tenures (more than 9 years) had lower quality financial statements, they found evidence that short to medium audit-firm tenure was associated with low quality of earnings (discretionary accruals). These finding suggests that auditors in the early years of their tenure may lack of specific knowledge about client's business, resulting in lower rates of detection for earnings manipulation.

Focusing on auditor-partner tenure, Carey and Simnett (2006) found evidence suggesting that long auditor tenure was less likely to modify auditor opinion on going concerns in Australian listed firms. They also found some evidence that firms with long audit tenure tended to report earnings in a way that meet earnings benchmarks, supporting the alternative view that long auditor tenure may harm earnings quality. However, they did not find any significant relationship between long audit tenures and discretionary accruals.

In Taiwan, Chi and Huang (2005) and Chen et al. (2008b) examined the effects of audit-firm and audit-partner tenures on earnings quality (discretionary accruals). Both studies report evidence that supports the notion that earnings quality increases as audit tenure increases. Nevertheless, Chi and Huang (2005) found that earnings quality tended to be

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<sup>31</sup> Myers et al. (2003: 784) examined audit-firm tenure; they define "auditor tenure as the number of years that the firm has retained the given auditor, and code auditor changes attributable to audit firm mergers as a continuation of the prior auditor."

lower when audit tenure exceeded the threshold of five years. They also found that BIG4 firms gained specific knowledge from their (new) client's firms more rapidly than NON-BIG4 firms. Chi et al. (2009) compared the effect of audit-partner tenure before and after auditor rotation (2003) in Taiwan. They found no evidence to support the notion that long auditor-tenure reduces earnings quality.

Overall, the literature suggests either positive or negative effects of auditor-partner tenure on managers' accounting discretion. For the Thai capital markets, a concern on an auditor's independence has been arisen after the corporate scandals in the US. Subsequently, the SECT requires listed firms to rotate their auditor partner for every five years since 2005. Based on this requirement, this study hypothesises that long auditor partner tenure (i.e.  $\geq 5$  years) could reduce auditors' independency and increase opportunities for managers to use of opportunistic accounting discretions.

*H<sub>a22</sub>: Auditor-Partner tenure has a positive impact on accounting discretion.*

### **5.2.5 The Corporate Governance Reforms and their Implications for Managers' Accounting Discretion**

Corporate governance reforms may influence the magnitude of accounting discretion over accruals and revenues. While they aim to reduce the conflict of interests between managers and shareholders, accounting standards reforms may provide some opportunities for managers to exercise accounting discretion over financial reporting.

Evidence from the literature is still limited and mixed in respect to whether corporate governance reforms help to limit opportunistic accounting discretion or not. In the US, Wang et al. (2011) found that the use of discretionary accruals decreased after the introduction of SOX, 2002. Although SOX, 2002, has not been successful in reducing the motivation of firms with poor performance to engage in income-increasing earnings management, it may prevent firms with good performance from doing so.

In Australia, Hutchinson (2008) found that some governance mechanisms (board independence) were able to limit the use of accounting discretion after the Australian corporate governance reforms.

In Thailand, it remains unclear whether the corporate governance reforms have improved the impact of ownership structure on accounting discretion or not. If the corporate governance mechanisms, imposed since 1999, have worked as well as they were intended to, they should have limited managers' accounting discretion. Therefore, the hypotheses are proposed as follows:

*H<sub>a23</sub>: The impact of ownership concentration on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

*H<sub>a24</sub>: The impact of the presence of a dominant shareholder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of a dominant shareholder in post-reform period will be more negatively related to accounting discretion.*

*H<sub>a25</sub>: The impact of family block ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

*H<sub>a26</sub>: The impact of government block ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

*H<sub>a27</sub>: The impact of foreign company block ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

*H<sub>a28</sub>: The impact of bank block ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

*H<sub>a29</sub>: The impact of non-bank financial institutions block ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively effect to accounting discretion.*

- H<sub>a30</sub>: The impact of the presence of a dominant family shareholder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of this type of a dominant shareholder in post-reform the post-reform period will be more negatively related to accounting discretion.*
- H<sub>a31</sub>: The impact of the presence of a dominant government shareholder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of this type of a dominant shareholder in post-reform the post-reform period will be more negatively related to accounting discretion.*
- H<sub>a32</sub>: The impact of the presence of a dominant foreign company shareholder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of this type of a dominant shareholder in post-reform the post-reform period will be more negatively related to accounting discretion.*
- H<sub>a33</sub>: The impact of the presence of a dominant non-bank financial institution shareholder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of this type of a dominant shareholder in post-reform the post-reform period will be more negatively related to accounting discretion.*
- H<sub>a34</sub>: The impact of managerial ownership on accounting discretion differs in pre-reform and post-reform periods in the sense that the post-reform ownership will be more negatively related to accounting discretion.*
- H<sub>a35</sub>: The impact of board size on accounting discretion differs in pre-reform and post-reform periods in the sense that post-reform board size will be more negatively related to accounting discretion.*
- H<sub>a36</sub>: The impact of board independence on accounting discretion differs in pre-reform and post-reform periods in the sense that post-reform board independence will be more negatively related to accounting discretion.*
- H<sub>a37</sub>: The impact of board experience on accounting discretion differs in pre-reform and post-reform periods in the sense that post-reform board experience will be more negatively related to accounting discretion.*
- H<sub>a38</sub>: The impact of the presence of CEO duality on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of CEO duality in the post-reform period will be more negatively related to accounting discretion.*

*H<sub>a39</sub>: The impact of the presence of a CEO and chairman who come from the same group on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of a CEO and chairman who come from the same group in the post-reform period will be more negatively related to accounting discretion.*

*H<sub>a40</sub>: The impact of the presence of CEO founder on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of CEO founder in the post-reform period will be more negatively related to accounting discretion.*

*H<sub>a41</sub>: The impact of the presence of CEO descendants on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of CEO descendants in the post-reform period will be more negatively related to accounting discretion.*

*H<sub>a42</sub>: The impact of the presence of a BIG4 audit firm on accounting discretion differs in pre-reform and post-reform periods in the sense that the presence of a BIG4 audit firm in the post-reform period will be more negatively related to accounting discretion.*

*H<sub>a43</sub>: The impact of auditor-partner tenure on accounting discretion differs in pre-reform and post-reform periods in the sense that auditor-partner tenure in the post-reform period will be more negatively related to accounting discretion.*

## **5.3 Research Design and Methodology**

### **5.3.1 Framework**

This chapter investigates whether ownership structure and other observed corporate governance have any effects on managers' accounting discretion in the Thai capital market. Other observed corporate governance mechanisms include board structure, CEO characteristics and audit quality. These mechanisms have been selected because they are the key mechanisms that play an important role in the Thai corporate governance system, as discussed in Chapter 3.

The perspectives of existing literature, discussed in Section 5.2.1, have been used to develop theoretical hypotheses and empirical testing methods (Bowen et al., 2008; Demsetz, 1983; Christie and Zimmerman, 1994; Core et al., 1999; Watts and Zimmerman, 1990). According to this framework, ownership structure and corporate

governance mechanisms are chosen by shareholders in order to respond to the current and anticipated economic environments. Governance mechanisms therefore induce optimal contracts, which lead to firm value maximisation in long run. Under an optimal contract, shareholders have already incorporated all economic determinants of expected managerial opportunism over accounting discretion within a firms' governance structure. In other words, they choose ownership structures and a set of governance mechanisms that minimise the agency problem, balancing the monitoring and contract costs and benefits gained from a reduction in expected manager opportunism.

If a contract is optimal, there should be no relationship between ownership structure, observed corporate governance mechanisms and accounting discretion because all economic determinants of accounting discretion have been specified by the contract parties. Thus if a contract is optimal,

Accounting Discretion =  $f$ [ownership structure, board structure, CEO characteristics, audit quality, other economic determinants]

However, incentive effects (alignment or entrenchment effects) may influence managers to exercise accounting discretion in short-run periods because contract parties may revise the initial contract from time to time in order to respond to new information, such as changes in economic circumstances, that affects their expectation of future performance and managerial opportunism. The hypotheses being tested here have been discussed in Sections 5.2.3 and 5.2.4.

### 5.3.2 Linear Regression Model

The objective of this chapter is to test the impact of ownership structure and other observed corporate governance mechanisms on managers' accounting discretion. Linear regression models have been chosen to test these relationships as follows:

$$\begin{aligned} AD_{i,t+1} = & \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \beta_{2-3} \text{Control Mechanisms}_{it} \\ & + \gamma_{1-3} \text{Board Structures}_{it} + \delta_{1-4} \text{CEO Characteristics}_{it} \\ & + \chi_{1-2} \text{External Auditor}_{it} + \eta_{14} \text{Other Economic Determinant}_{it} \\ & + \eta_5 \text{Industry dummy} + \eta_6 \text{Year dummy} + \varepsilon_{it} \end{aligned} \quad (5.1)$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 D\_Dominant_{it} + \beta_{2-3} \text{ Control Mechanisms}_{it} \\
& + \gamma_{1-3} \text{ Board Structures}_{it} + \delta_{1-4} \text{ CEO Characteristics}_{it} \\
& + \chi_{1-2} \text{ External Auditor}_{it} + \eta_{14} \text{ Other Economic Determinant}_{it} \\
& + \eta_5 \text{ Industry dummy} + \eta_6 \text{ Year dummy} + \varepsilon_{it}
\end{aligned} \tag{5.2}$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 \text{ Family Own}_{it} + \beta_2 \text{ Government Own}_{it} + \beta_3 \text{ Foreign Own}_{it} \\
& + \beta_4 \text{ Domestic Own}_{it} + \beta_5 \text{ Bank}_{it} + \beta_6 \text{ Non-Bank Financial Institution-} \\
& \text{Own}_{it} + \beta_{7-8} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board Structures}_{it} \\
& + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy} \\
& + \eta_6 \text{ Year dummy} + \varepsilon_{it}
\end{aligned} \tag{5.3}$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 D\_Family_{it} + \beta_2 D\_Government_{it} + \beta_3 D\_Foreign_{it} \\
& + \beta_4 D\_Domestic_{it} + \beta_5 D\_Bank_{it} + \beta_6 D\_Non-Bank Financial \\
& \text{Institution}_{it} + \beta_{7-8} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board Structures}_{it} \\
& + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy} \\
& + \eta_6 \text{ Year dummy} + \varepsilon_{it}
\end{aligned} \tag{5.4}$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 \text{ Manager Own}_{it} + \beta_{2-3} \text{ Control Mechanisms}_{it} \\
& + \gamma_{1-3} \text{ Board Structures}_{it} + \delta_{1-4} \text{ CEO Characteristics}_{it} \\
& + \chi_{1-2} \text{ External Auditor}_{it} + \eta_{14} \text{ Other Economic Determinant}_{it} \\
& + \eta_5 \text{ Industry dummy} + \eta_6 \text{ Year dummy} + \varepsilon_{it}
\end{aligned} \tag{5.5}$$

Where subscript  $i$  and  $t$  denote firms and years,  $AD_{i,t+1}$  is unsigned discretionary accruals or discretionary revenues. As suggested by Bowen et al. (2008), the corporate governance and economic determinants are assumed to have been chosen by shareholders before accounting discretion has occurred. Therefore, all accounting discretion proxies were measured at the following year, after corporate governance has been implemented (one-year-ahead discretionary accruals and revenues). Using one-year ahead dependent variables may also help to control for some potential endogeneity problems without completely eliminating them. For each regression, dummy variables for industry and year were included in each regression to control for any possible variations across industries and years.

The definitions of all variables are described in Table 5.4. In addition, the preliminary test for heteroskedasticity<sup>32</sup> for all models rejected the null hypothesis of constant variance in error terms. Therefore, in order to rectify the problem of heteroskedasticity, the standard error of each regression model was adjusted by White's (1980) "heteroskedasticity-consistent variances" (also known as "robust standard error").

### ***5.3.2.1 Test for Equality between Coefficients before and after the Corporate Governance Reforms***

The specification models (Model 5.1 – 5.5) are separately estimated using sub-period samples, a pre-period (1994 – 1998) and post-period of the corporate governance reform (2000 – 2007). The dummy variable approach as suggested by Gujarati (1970a, 1970b) is applied to test equality between sets of coefficients in the pre-reform and post-reform regressions. The single regressions for each specification model are as following:

$$\begin{aligned}
 AD_{i,t+1} = & \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \beta_{2-3} \text{Control Mechanisms}_{it} \\
 & + \gamma_{1-3} \text{Board Structures}_{it} + \delta_{1-4} \text{CEO Characteristics}_{it} \\
 & + \chi_{1-2} \text{External Auditor}_{it} + \eta_{14} \text{Other Economic Determinant}_{it} \\
 & + \eta_5 \text{Industry dummy} + \text{Post} \times [\beta_0 + \beta_1 \text{Concentrated Own}_{it} \\
 & + \beta_{2-3} \text{Control Mechanisms}_{it} + \gamma_{1-3} \text{Board Structures}_{it} \\
 & + \delta_{1-4} \text{CEO Characteristics}_{it} + \chi_{1-2} \text{External Auditor}_{it} \\
 & + \eta_{14} \text{Other Economic Determinant}_{it} + \eta_5 \text{Industry dummy}] + \varepsilon_{it}
 \end{aligned}
 \tag{5.6}$$

$$\begin{aligned}
 AD_{i,t+1} = & \beta_0 + \beta_1 \text{D\_Dominant}_{it} + \beta_{2-3} \text{Control Mechanisms}_{it} \\
 & + \gamma_{1-3} \text{Board Structures}_{it} + \delta_{1-4} \text{CEO Characteristics}_{it} \\
 & + \chi_{1-2} \text{External Auditor}_{it} + \eta_{14} \text{Other Economic Determinant}_{it} \\
 & + \eta_5 \text{Industry dummy} + \text{Post} \times [\beta_0 + \beta_1 \text{D\_Dominant}_{it} \\
 & + \beta_{2-3} \text{Control Mechanisms}_{it} + \gamma_{1-3} \text{Board Structures}_{it} \\
 & + \delta_{1-4} \text{CEO Characteristics}_{it} + \chi_{1-2} \text{External Auditor}_{it} \\
 & + \eta_{14} \text{Other Economic Determinant}_{it} + \eta_5 \text{Industry dummy}] + \varepsilon_{it}
 \end{aligned}
 \tag{5.7}$$

<sup>32</sup> An important assumption of the method of Ordinary Least Square (OLS) is that the variance of error term is the same for all observations, this is called "homoskedasticity" (Gujarati, 1995). The original Breusch-Pagan/Cook-Weisberg test obtained from the Stata package (command: -estat hettest-) was performed. The test rejected the null hypothesis that the error term has equal variance. Therefore, White's heteroskedasticity-consistent variances were used to robust standard errors for all models.



$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} + \beta_3 \text{Foreign Own}_{it} \\
& + \beta_4 \text{Domestic Own}_{it} + \beta_5 \text{Bank}_{it} + \beta_6 \text{Non-Bank Financial Institution-} \\
& \text{Own}_{it} + \beta_{7-8} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board Structures}_{it} \\
& + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy} \\
& + \text{Post} \times [\beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} \\
& + \beta_3 \text{Foreign Own}_{it} + \beta_4 \text{Domestic Own}_{it} + \beta_5 \text{Bank}_{it} + \beta_6 \text{Non-Bank} \\
& \text{Financial Institution-Own}_{it} + \beta_{7-8} \text{ Control Mechanisms}_{it} \\
& + \gamma_{1-3} \text{ Board Structures}_{it} + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External} \\
& \text{Auditor}_{it} + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy}] + \varepsilon_{it}
\end{aligned}
\tag{5.8}$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 D\_ \text{Family}_{it} + \beta_2 D\_ \text{Government}_{it} + \beta_3 D\_ \text{Foreign}_{it} \\
& + \beta_4 D\_ \text{Domestic}_{it} + \beta_5 D\_ \text{Bank}_{it} + \beta_6 D\_ \text{Non-Bank Financial Institution}_{it} \\
& + \beta_{7-8} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board Structures}_{it} \\
& + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy} \\
& + \text{Post} \times [\beta_0 + \beta_1 D\_ \text{Family}_{it} + \beta_2 D\_ \text{Government}_{it} \\
& + \beta_3 D\_ \text{Foreign}_{it} + \beta_4 D\_ \text{Domestic}_{it} + \beta_5 D\_ \text{Bank}_{it} + \beta_6 D\_ \text{Non-Bank} \\
& \text{Financial Institution}_{it} + \beta_{7-8} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board} \\
& \text{Structures}_{it} + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy}] + \varepsilon_{it}
\end{aligned}
\tag{5.9}$$

$$\begin{aligned}
AD_{i,t+1} = & \beta_0 + \beta_1 \text{Manager Own}_{it} + \beta_{2-3} \text{ Control Mechanisms}_{it} \\
& + \gamma_{1-3} \text{ Board Structures}_{it} + \delta_{1-4} \text{ CEO Characteristics}_{it} \\
& + \chi_{1-2} \text{ External Auditor}_{it} + \eta_{14} \text{ Other Economic Determinant}_{it} \\
& + \eta_5 \text{ Industry dummy} + \text{Post} \times [\beta_0 + \beta_1 \text{Manager Own}_{it} \\
& + \beta_{2-3} \text{ Control Mechanisms}_{it} + \gamma_{1-3} \text{ Board Structures}_{it} \\
& + \delta_{1-4} \text{ CEO Characteristics}_{it} + \chi_{1-2} \text{ External Auditor}_{it} \\
& + \eta_{14} \text{ Other Economic Determinant}_{it} + \eta_5 \text{ Industry dummy} + \varepsilon_{it}
\end{aligned}
\tag{5.10}$$

Where *Post* is an indicator variable, which is equal to 1 for periods after the reform (2000 - 2007) and is equal to 0 for periods before the reform (1994 - 1998).

The significantly *positive* sign of the coefficient of ( $Post \times \text{variable}$ ) indicates the positive incremental effect in post-reform period. In other words, ownership and/or governance variable has more positive (less negative) influence on the use of accounting discretion in the *post*-reform period than in the *pre*-reform period. This could imply that the ownership structure and/or other governance mechanisms works less efficient either in aligning the largest shareholders' interests to other shareholders' interests or limiting their opportunistic behaviour in firms in the post-reform period.

On the other hand, the significantly *negative* sign of coefficient of ( $Post \times \text{variable}$ ) indicates the negative incremental effect in post-reform period. In other words, the ownership variable and/or governance variable has more negative (less positive) impact on firm performance in the *post*-reform period than in the *pre*-reform period. This could imply the more efficiency of the ownership structure and/or governance mechanisms either in aligning the largest shareholders' interests to other shareholders' interests or limiting their opportunistic behaviour in firms in the post-reform period.

The Wald test is also performed in order to test whether the coefficients of variables in the post-reform period ( $\beta_{Post} = \beta_{Pre} + \text{incremental effect}$ ) significantly differ from those in the pre-reform period ( $\beta_{Pre}$ ). As in Chapter 4, the Wald tests are computed by using “test” command in Stata. The null hypothesis is that  $\beta_{post} = \beta_{Pre}$ , which is equivalent to  $\beta_{Post} - \beta_{Pre} = 0$ . The rejection of the null hypothesis indicates that  $\beta_{post}$  is significantly different from  $\beta_{Pre}$ .

### 5.3.3 Models to Estimate Accounting Discretion (Dependent Variables)

#### 5.3.3.1 Accruals and Revenue-Based Approaches

As discussed in Section 5.2.2, there are many methods by which managers or dominant shareholders can engage in accounting discretion. The complexity of accruals accounts makes them attractive to managers who exercise opportunistic accounting discretion (Young, 1999).

Table 5.1 shows the numbers of accounting misstatements and irregularities that were investigated and publicly reported by the SECT during 2003 to 2011, revealing that most of the cases (34.62%) involved revenue recognition and allowances for doubtful accounts and suggesting that managers and dominant shareholders in the Thai capital market were motivated to exercise accounting discretion over revenue as well as other accruals.

**Table 5.1: Summary of the Securities and Exchange Commissions Rectification Orders for Accounting Misstatements and Irregularities Categorised by Issues during the year 2003 to 2011**

Accounting Misstatements and Irregularities	Number of Cases	%
Doubtful accounts and bad debts	9	17.31
Revenue Recognition/Revenue Recognition for Real Estate	9	17.31
Impairment of assets	8	15.38
Scope limitation of auditing or reviewing by auditors	6	11.54
Employee Benefits	4	7.69
Consolidated financial statements and investments in subsidiaries	4	7.69
Disclosure of events after the balance sheet date	3	5.77
Provisions, contingent liabilities and contingent assets	3	5.77
Recording asset not in compliance with generally accepted accounting principles	2	3.85
Derecognising assets and liabilities not in compliance with generally accepted accounting principles	2	3.85
Others	2	3.85
<b>Total</b>	<b>52</b>	<b>100.00</b>

**Source:** Annual Reports and the SEC News from 2003 to 2011, The Securities and Exchange Commission, Thailand (SECT)

Accordingly, accounting discretion was measured using proxies that were derived from accruals and revenue-based models. In order to estimate discretionary accruals, two common models were adopted: the cross-sectional Jones model and the cross-sectional modified Jones model. As alternative measurements, the cross-sectional revenues model suggested by Stubben (2010) was adopted in order to estimate discretionary revenues.

This study aims to find the impact of ownership and other corporate governance on accounting discretion in general; therefore, a “pre-event” period is not defined.<sup>33</sup> Accounting discretion is assumed to have occurred in the estimation periods and scaled and unscaled constant terms are included into all models (Kothari et al., 2005). As argued by Kothari (2005), the inclusion of unscaled constant terms in an estimation model can be an additional control for heteroskedasticity that might be left over from scale differences such as asset deflators.

According to Reynold and Francis (2000: 380),

“In the absence of specific directional prediction, Warfield et al., 1995 and Francis et al. (1999a) argue that the extent to which companies use accruals to manage earnings is best measured by the unsigned (absolute) value of accruals. The magnitude of unsigned accruals measures a company’s success in managing earnings either up or down, as needed, depending on year-specific situation.”

Since accounting discretion can be used either to increase or decrease earnings unsigned discretionary accruals are used instead of signed discretionary accruals in the accounting discretion regressions (for examples, see Bowen et al., 2008; Warfield et al., 1995; Wang, 2006).

### ***5.3.3.1.1 Discretionary Accruals Estimated from the Cross-Sectional Jones Model (1991)***

Estimation involved two steps. Firstly, non-discretionary accruals were estimated from Model DA1, as shown below and firm-specific parameters ( $\alpha_1$ ,  $\beta_1$  and  $\beta_2$ ) for each industry and each year were estimated using the OLS regression. Secondly, discretionary accruals are residuals obtained from the estimation and are equal to the difference between total accruals and non-discretionary accruals.

$$TAC_{ijt} / A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt} / A_{ijt-1} + \beta_2 PPE_{ijt} / A_{ijt-1} + \varepsilon_{ijt} \quad (DA1)$$

<sup>33</sup> McNichols (2002) argues that it is important for research to identify specific motives and times for the study of earnings management, but this study is designed to investigate the use of accounting discretion in general rather than specific cases.

Where,

$\alpha_0$	= Unscaled constant term
$\alpha_1$	= Scaled constant term
$TAC_{ijt}$	= Total accruals of sample firm $i$ in industry $j$ for year $t$
$\Delta SALES_{ijt}$	= Revenue from sales of sample firm $i$ for industry $j$ in year $t$ less revenue from its sales at time $t-1$
$PPE_{ijt}$	= Gross property, plants and equipment of sample firm $i$ in industry $j$ for year $t$
$A_{ijt-1}$	= Total assets of sample firm $i$ in industry $j$ for year $t-1$
$\varepsilon_{ijt}$	= Error term of sample firm $i$ in industry $j$ for year $t-1$

Total Accruals<sup>34</sup> ( $TAC_{it}$ ) was calculated as [ $\Delta$ current assets –  $\Delta$ cash] less [ $\Delta$ current liabilities] less Depreciation, scaled by lagged total assets.

### ***5.3.3.1.2 Discretionary Accruals Estimated from the Cross-Sectional Modified Jones Model by Dechow et al. (1995)***

Dechow et al. (1995) extended the Jones model (1991), assuming that changes in all credit sales (changes in accounting receivables) in an event period occurred due to the intention of managers to manage earnings; through revenue recognition, it is easier to manipulate credit sales than it is to manipulate cash sales. Therefore, the model estimation was similar to DA1, with an exception to include changes in net receivables ( $\Delta AR_t = AR_{ijt} - AR_{ijt-1}$ ) as follows:

$$TAC_{ijt} / A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1(\Delta SALES_{ijt} - \Delta AR_{ijt})/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{it} \quad (DA2)$$

Where,

$\alpha_0$	= Unscaled constant term
$\alpha_1$	= Scaled constant term
$TAC_{ijt}$	= Total accruals of sample firm $i$ in industry $j$ for year $t$
$\Delta SALES_{ijt}$	= Revenue from sales of sample firm $i$ for industry $j$ in year $t$ less revenue from its sales for year $t-1$
$\Delta AR_{ijt}$	= Net receivables of sample firm $i$ in industry $j$ for year $t$ less net receivables for year $t-1$
$PPE_{ijt}$	= Gross property, plants and equipment of sample firm $i$ in industry $j$ for year $t$

<sup>34</sup> Total accruals in Jones (1991) are defined as “the change in non-cash working capital before income taxes payable less total depreciation expenses”. Note that most of data for current portion of long-term debt in SETSMART are missing. Therefore, in order to maintain sufficient data for regression, non-cash working capital in this study is calculated by subtracting non-cash current assets with current liabilities less depreciation (for example, see Jones, 1991: 211).

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$A_{ijt-1}$	= Total assets of sample firm $i$ in industry $j$ for year $t-1$
$\epsilon_{ijt}$	= Error term of sample firm $i$ in industry $j$ for year $t-1$

### 5.3.3.1.3 Discretionary Revenues Models by Stubben (2010)

According to Stubben's (2010: 700) model to estimate managers' discretion over revenues from sales accounts, the reported sales revenues (R) consist of two components: non-discretionary revenues (NR) and discretionary revenues (DR).

$$R_{it} = NR_{it} + DR_{it}$$

Assuming that  $c$  is a fraction of non-discretionary revenues that are uncollected at the year-end and all discretionary revenues are not collectable, accounts receivable (AR) is the sum of uncollected non-discretionary revenues and uncollected discretionary revenues.

$$AR_{it} = (c \times NR_{it}) + DR_{it}$$

Non-discretionary revenues are not directly observed. Using the relationship between reported revenues and accounts receivable, Stubben (2010:700) expresses "receivables accrual" in terms of reported revenues from sales and takes the first difference to obtain an expression as follows:

$$\Delta AR_{it} = c \times \Delta R_{it} + (1 - c) \times \Delta DR_{it}$$

The discretionary revenues<sup>35</sup> (DR) are measured as a residual from the following equation<sup>36</sup>:

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<sup>35</sup> It is worth noting that the reported revenues ( $R_{it}$ ) include discretionary accruals, therefore discretionary revenues from the models above are understated by the amount of the factor  $(1-c)$  (Stubben, 2010). Jones (1991: 212) suggests that it is possible that managers intend to decrease reported earnings. For example, goods shipments may be postponed in order to delay recognition of revenues into the next period.

<sup>36</sup> Stubben (2010) argues that, while sales from early quarters are expected to collect during the current year, revenues from late in the year may be still uncollected at the year-end. Therefore, it could be more accurate to separate the fourth-quarter revenues from those of the first three quarters because they have different timings for cash collection, as follows:  $\Delta AR_{it} = \alpha + \beta_1 \Delta R1_{3it} + \beta_2 \Delta R4_{it} + \epsilon_{it}$ . However, in his paper, he focuses on annual revenues, which could be compared to other accruals-based models.

$$\Delta AR_{it} = \alpha + \beta \Delta R_{it} + \varepsilon_{it}$$

That is,

$$DR_{it} = \Delta AR_{it} - \hat{\alpha} - \hat{\beta}_1 \Delta R_{it}$$

To control for firm-specific determinants of account receivables, Stubben (2010: 701 - 702) presents the conditional revenue model for cross-sectional estimation, which incorporates the determinants of account receivables suggested by Callen et al. (2008)<sup>37</sup> as follows:

$$\begin{aligned} \Delta AR_{it} = & \alpha_0 + \beta_1 \Delta R_{it} + \beta_2 \Delta R_{it} \times SIZE_{it} + \beta_3 \Delta R_{it} \times AGE_{it} + \beta_4 \Delta R_{it} \times AGE\_SQ_{it} \\ & + \beta_5 \Delta R_{it} \times GRR\_P_{it} + \beta_6 \Delta R_{it} \times GRR\_N_{it} + \beta_7 \Delta R_{it} \times GRM_{it} \\ & + \beta_8 \Delta R_{it} \times GRM\_SQ_{it} + \varepsilon_{it} \end{aligned}$$

Firm size (SIZE) is a proxy for a firm's financial strength. Larger firms are assumed to be wealthier than smaller firms are. Firm age (AGE) is a proxy for a firm's business cycle and its square (AGE\_SQ) captures a non-linear relationship between age and credit policy. In order to control for operating performance, a positive or negative industry-median-adjusted growth rate (GRR\_P, GRR-N, respectively) and industry-median-adjusted gross margin (GRM) and its square (GRM\_SQ) are also added into the estimation.

Therefore, discretionary revenues ( $DR_{ijt}$ ) were measured as residuals of the cross-sectional revenue-based models, using annual sales (DR1), and the conditional revenue models (DR2) were measured using annual sales, as suggested by Stubben (2010), as shown below. Additionally, unsigned discretionary revenues from both models were used as proxies for accounting discretion.

$$\Delta AR_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt}/A_{ijt-1} + \varepsilon_{ijt} \quad (DR1)$$

<sup>37</sup> Callen et al. (2008: 6) suggest that firms' investment in account receivables is a function of their financial strength, operational performance compared to industrial competitors, and stage of business life.

$$\begin{aligned}
\Delta AR_{ijt}/A_{ijt-1} = & \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt}/A_{ijt-1} + \beta_2 \Delta SALES_{ijt}/A_{ijt-1} \times SIZE_{it} \\
& + \beta_3 \Delta SALES_{ijt}/A_{ijt-1} \times AGE_{it} + \beta_4 \Delta SALES_{ijt}/A_{ijt-1} \times AGE\_SQ_{it} \\
& + \beta_5 \Delta SALES_{ijt}/A_{ijt-1} \times GRR\_P_{it} + \beta_6 \Delta SALES_{ijt}/A_{ijt-1} \times GRR\_N_{it} \\
& + \beta_7 \Delta SALES_{ijt}/A_{ijt-1} \times GRM_{it} + \beta_8 \Delta SALES_{ijt}/A_{ijt-1} \times GRM\_SQ_{it} + \varepsilon_{ijt} \quad (DR2)
\end{aligned}$$

Where,

- $\alpha_0$  = Unscaled constant term  
 $\alpha_1$  = Scaled constant term  
 $TAC_{ijt}$  = Total accruals of sample firm  $i$  in industry  $j$  for year  $t$   
 $\Delta SALES_{ijt}$  = Revenue from sales of sample firm  $i$  for industry  $j$  in year  $t$  less revenue from its sales for year  $t-1$   
 $\Delta AR_{ijt}$  = Net receivables of sample firm  $i$  in industry  $j$  for year  $t$  less net receivables for year  $t-1$   
 $A_{ijt-1}$  = Total assets of sample firm  $i$  in industry  $j$  for year  $t-1$   
 $SIZE_{it}$  = Log of firm's total assets  
 $AGE_{it}$  = Log of firm's age  
 $GRR\_P_{it}$  = A positive industry-median-adjusted sales growth<sup>38</sup> (= 0 if negative)  
 $GRR\_N_{it}$  = A negative industry-median-adjusted sales growth (= 0 if positive)  
 $GRM_{it}$  = An industry-median-adjusted gross margin<sup>39</sup>  
 $\_SQ$  = Square of variables  
 $\varepsilon_{ijt}$  = Error term of sample firm  $i$  in industry  $j$  for year  $t-1$

### 5.3.2.2 Some Links between Accruals-based Models and Revenue-Based Models

“[N]o single model will properly capture such heterogeneous discretion, and that aggregating across dissimilar types of earnings management can reduce the ability to estimate the magnitude of manipulation...”

(McNichols, 2003: 387)

The literature discussed in Section 5.2.2.3 suggests that, while discretionary accruals-based models may measure discretionary accruals with errors, discretionary revenue is less biased and may be a better measurement of accounting discretion (Stubben, 2010).

Nevertheless, the two approaches are linked to some extent. The Jones model (1991) assumes that all sales are unmanaged, treating all sales revenues ( $\Delta SALES$ ) as non-discretionary accruals. Dechow et al. (1995) argues that credit sales rather than cash sales can be a source of manipulation and, assuming that all credit sales are

<sup>38</sup> Sales growth is a ratio of current sales ( $t$ ) to prior year's sales ( $t-1$ ).

<sup>39</sup> Gross profit margin was calculated by sales less the costs of sales, divided by sales.



discretionary, they excluded all changes in credit sales ( $\Delta AR$ ) in order to correct for the understatement of discretionary accruals in the Jones model (1991). However, it is possible that credit sales are uncollected sales that arise in the normal course of business rather than as a result of managers' manipulation. Therefore, the assumption of Dechow et al. (1995) may overestimate discretionary accruals for firms such as those with a higher proportion of credit sales (growth firms, for example). Dechow et al. (2003) attempted to minimise this error by adjusting all credit sales ( $\Delta AR$ ) with an estimate of normal credit sales ( $k \times SALES$ ), which was derived from a regression of change in receivables on change in sales. However, this adjustment had an insignificant impact on estimated discretionary accruals in their study.

The Stubben model (2010) predicts non-discretionary and discretionary revenue based on a direct relationship between accounting receivables and sales. In fact, the model could be viewed as belonging to a subset of accruals-based models, derived from sales revenues. Therefore, using the prediction of discretionary sales revenues from the Stubben model (2010) to estimate normal sales may improve accruals-based models and enable them to more accurately identify non-discretionary and discretionary accruals that have partly arisen from revenue manipulation.

Applying the approach of Dechow et al. (2003: 358), the coefficient of  $\Delta SALES$ , derived from the Stubben model (2010), was applied to adjust for expected credit sales in the accruals-based models. The slope coefficients ( $k$ ) in the Stubben model (2010) measure an expected change in accounts receivables relative to a given change in sales revenues, representing the unmanaged part of the changes in credit sales.

As in Dechow et al. (2003), the change in accounts receivables ( $\Delta AR$ ) was adjusted by subtracting them from the estimated change in accounts receivables ( $k_j \times \Delta SALES$ ), which were derived from the revenue-based models of Stubben (2010), and using annual sales and conditional annual sales.

The differences between the two variables ( $\Delta AR - k_j \times \Delta SALES$ ) are the expected credit sales arising from managers' discretion. Therefore, non-discretionary sales revenues were calculated as follows:

$$\Delta \text{Non-discretionary sales}_{it} = \Delta SALES_{it} - (\Delta AR_{it} - k_j \times \Delta SALES_{it})$$

This can be rearranged as,

$$\Delta \text{Non-discretionary sales}_{it} = (1+k_j) \times \Delta SALES_{it} - \Delta AR_{it}$$

Where  $k_j$  represents the slope coefficients from the annual ( $k_1$ ) and conditional revenue-based models ( $k_2$ ) suggested by Stubben (2010),  $k_1$ , and  $k_2$  are restricted to between 0 and 1 in order to ensure that the amount of estimated change in accounts receivables from the models does not exceed the change based on reported accounting receivables. The adjusted models based on cross-sectional modified Jones model are as follows:

#### **Adjusted Modified Jones Model (Dechow et al., 1995)**

$$TAC_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 [(1+k_1) \times \Delta SALES_{ijt} - \Delta AR_{ijt}]/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$$

(DA2\_DR1)

$$TAC_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 [(1+k_2) \times \Delta SALES_{ijt} - \Delta AR_{ijt}]/A_{ijt-1} + \beta_2 PPE_{it}/A_{ijt-1} + \varepsilon_{ijt}$$

(DA2\_DR2)

#### ***5.3.2.3 Test for the Explanatory Power of Accruals, Revenues and Adjusted Accruals-Based Models***

This section aims to examine the relative explanatory power of discretionary accruals and discretionary revenue obtained from the models discussed in Sections 5.3.2.1. and 5.3.2.2. The data used in the calculation came from the SETSMART, provided by the SET, from 1994 to 2007. All models were calculated based on industry-year groups. For this analysis, firms in the financial and banking sectors and firms in rehabilitation were excluded from the calculation because they are regulated separately.

At least ten observations in each industry-year group were required (for examples, see Dechow et al. 2003; Stubben, 2010). A summary of the statistics and correlations between all variables for each model are shown in Table 5.2, and the mean coefficients, estimated based on the industry-year regressions from all models,<sup>40</sup> are presented in Table 5.3.

Regarding the Jones and modified Jones models (DA1, DA2), Table 5.2, shows that the mean coefficients on change in revenues from sales ( $\Delta\text{SALES}$ ) and change in revenues from sales less change in accounts receivables ( $\Delta\text{SALES}-\Delta\text{AR}$ ) have a positive sign in all accrual-based models. Jones (1991) suggests that the sign for the coefficient of  $\Delta\text{SALES}$  can be either positive or negative. For example, while an increase in accounts receivable generates income-increasing accruals, an increase in accounts payable generates income-decreasing accruals.

Nevertheless, the results from Table 5.3, Panel A, show that the mean coefficients for  $\Delta\text{SALES}-\Delta\text{AR}$  in Model DA2 (0.04) are lower than those for  $\Delta\text{SALES}$  in Model DA1 (0.073). In addition, Fama and Macbeth t-statistics differ insignificantly from zero. The lack of power in the model after the exclusion of  $\Delta\text{AR}$  may imply that  $\Delta\text{AR}$  is a major factor driving the correlation between accruals and  $\Delta\text{SALES}$  (for example, see Stubben, 2010).

Regarding adjusted accruals-based models (DA2\_DR1, DA2\_DR2), the signs of the mean coefficients for adjusted changes in sales revenues and other variables are as expected and are consistent with those from the unadjusted models (DA1, DA2). Therefore, it appears that the adjusted accruals-based models do not improve the explanatory power of the mean coefficients from the unadjusted models in turn do not significantly impact to the residuals (adjusted discretionary accruals) from each model.

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<sup>40</sup> For each industry-year group, winsorising the total accruals and related independent variables at the 1<sup>st</sup> and 99<sup>th</sup> percentiles does not change any of the values of the variables from their actual values.

As expected, the mean coefficients of property, plants and equipment (PPE) have a negative sign in all models, because PPE normally generates income-decreasing accruals (depreciation).

Regarding the Stubben models (DR1, DR2), Table 5.3, Panel B, shows that, on average, the coefficients of  $\Delta\text{SALES}$  have a positive sign in all revenue-based models. It also shows that, on average, the explanatory power of the variables from the revenue-based models is much higher than those from the accruals-based models are. In addition, on average, the goodness of fit ( $R^2$ ) for all revenue-based models is higher than those from the accruals-based models are. This may be because the revenue-based models link directly to changes in accounts receivables accruals to changes in revenue from sales. Stubben (2010) argues that while the accounts receivables component of accruals directly relates to sales, other accruals come from many sources within accounts, resulting in an unclear relation to sales. Nevertheless, on average, additional independent variables to control for credit policy in the conditional revenue models (DR2) are not statistically significant in respect to  $\Delta\text{AR}$ .

In conclusion, the results from Table 5.3 suggest that credit sales, rather than cash sales, have a significant impact on accruals. Therefore, the exclusion of changes in accounts receivables accruals weakens the correlation between accruals and change in sales revenues, creating more noise in the discretion estimated from the accruals-based models (Stubben, 2010). Unfortunately, the adjusted accruals-based models do not significantly improve the discretionary accruals estimated from the original accruals-based models. Therefore, it might be more reasonable to estimate accruals and discretionary revenue separately.

**Table 5.2: Summary of for All Variables for Accruals and Revenue-Based Models****Descriptive Statistics**

<b>Variables</b>	<b>Obs.</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Q1</b>	<b>Median</b>	<b>Q3</b>
<b>DA1 (Cross-Sectional Jones Model, 1991)</b>						
TAC	3,209	-0.045	0.190	-0.531	-0.048	0.016
ΔSALES	3,209	0.086	0.369	-0.537	0.051	0.160
PPE	3,209	1.662	22.252	0.049	0.788	1.078
<b>DA2 (Cross-Sectional Modified Jones Model)</b>						
TAC	3,146	-0.045	0.189	-0.531	-0.048	0.016
ΔSALES - ΔAR	3,146	0.075	0.326	-0.483	0.045	0.140
PPE	3,146	1.686	22.473	0.056	0.796	1.080
<b>DR1 (Stubben, 2010) – Annual (Sales) Revenues</b>						
ΔAR	4,009	0.017	0.113	-0.203	0.004	0.030
ΔSALES	4,009	0.095	0.381	-0.562	0.052	0.166
<b>DR2 (Stubben, 2010) – Conditional Annual (Sales) Revenues</b>						
ΔSALES	3,988	0.094	0.380	-0.563	0.052	0.166
ΔAR	3,988	0.017	0.105	-0.203	0.004	0.030
SIZE	3,988	1.420	5.447	-7.763	0.764	2.448
AGE	3,988	0.266	1.086	-1.753	0.154	0.510
AGE_SQ	3,988	0.785	3.307	-5.760	0.456	1.542
GRR_P	3,988	0.244	7.423	0.000	0.000	0.016
GRR_N	3,988	0.017	0.155	-0.015	0.000	0.002
GRM	3,988	0.002	0.057	-0.125	0.000	0.009
GRM_SQ	3,988	0.000	0.067	-0.030	0.000	0.001

**Note:** All variables are deflated by last year's total assets

**Table 5.3: Estimations of Accruals and Revenue-Bases Models**

<b>Panel A: Estimation of Discretionary Accruals from Accruals-Based Models and Adjusted Accruals-Based Models</b>								
Jones Model (1991)	$TAC_{ijt} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt}/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$							(DA1)
Modified Jones Model (Dechow et al., 1995)	$TAC_{ijt} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 (\Delta SALES_{ijt} - \Delta AR_{ijt})/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$							(DA2)
Adjusted Modified Jones Model (Annual Sales)	$TAC_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 [(1+k_1) \times \Delta SALES_{ijt} - \Delta AR_{ijt}]/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$							(DA2_DR1)
Adjusted Modified Jones Model (Conditional Annual Sales)	$TAC_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 [(1+k_2) \times \Delta SALES_{ijt} - \Delta AR_{ijt}]/A_{ijt-1} + \beta_2 PPE_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$							(DA2_DR2)
Variables	DA1		DA2		DA2_DR1		DA2_DR2	
	Mean	FM	Mean	FM	Mean	FM	Mean	FM
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
$\Delta SALES$	0.073***	2.64						
$\Delta SALES - \Delta AR$			0.04	1.07				
Adj. $\Delta SALES$ ( $k_j$ )					0.039	1.31	0.024	0.75
PPE	-0.075***	-6.51	-0.074***	-5.96	-0.075***	-6.08	-0.074***	-6.02
No. of Observations	3,209		3,146		3,146		3,146	
No. of Industry-Years	89		89		89		89	
R-squared	0.0003		0.0003		0.0003		0.0003	
<b>Panel B: Estimation of Discretionary Revenues from Sales from Revenue-Based Models</b>								
Stubben (2010) (Annual Sales)	$\Delta AR_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt}/A_{ijt-1} + \varepsilon_{ijt}$							(DR1)
Stubben (2010) (Conditional Annual Sales)	$\Delta AR_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_1 1/A_{ijt-1} + \beta_1 \Delta SALES_{ijt}/A_{ijt-1} + \beta_2 \Delta SALES_{ijt}/A_{ijt-1} \times SIZE_{it} + \beta_3 \Delta SALES_{ijt}/A_{ijt-1} \times AGE_{it} + \beta_4 \Delta SALES_{ijt}/A_{ijt-1} \times AGE\_SQ_{it} + \beta_5 \Delta SALES_{ijt}/A_{ijt-1} \times GRR\_P_{it} + \beta_6 \Delta SALES_{ijt}/A_{ijt-1} \times GRR\_N_{it} + \beta_7 \Delta SALES_{ijt}/A_{ijt-1} \times GRM_{it} + \beta_8 \Delta SALES_{ijt}/A_{ijt-1} \times GRM\_SQ_{it} + \varepsilon_{ijt}$							(DR2)
Variables	DR1		DR2					
	Mean	FM	Mean	FM				
	Coef.	t-stat	Coef.	t-stat				
$\Delta SALES$	0.162***	12.67			0.629	1.34		
$\Delta SALES * SIZE$					-0.011	-1.30		
$\Delta SALES * AGE$					-0.215	-0.78		
$\Delta SALES * AGE\_SQ$					0.032	0.76		
$\Delta SALES * GRR\_P$					0.086	0.87		
$\Delta SALES * GRR\_N$					-0.084	-0.74		
$\Delta SALES * GRM$					-0.019	-0.19		
$\Delta SALES * GRM\_SQ$					-0.151	-0.26		
No. of Observations	4,009				3,988			
No. of Industry-Years	90				89			
R-squared	0.3201				0.1179			

**Note:** \*, \*\*, \*\*\* Indicate that the coefficients estimated are significantly different from zero at 0.10, 0.05 and 0.01 level of significance, respectively using two-sided test. FM t-stat is Fama and Macbeth (1973) t-statistic. Sample years include the year from 1994 to 2007. Industry code is based on 8 industries (excluded financial and banking sector and firms in rehabilitation) classified by the SET.

### 5.3.4 Ownership Variables

As in Chapter 4, ownership concentration was measured by the percentage of shares owned by the largest shareholders. Assuming that there was no cooperation of shareholders within each type or across types, ownership concentration by shareholder type was also measured as the percentage of shares owned directly or indirectly by the largest shareholders within each type (family, government, foreign company investor, domestic company, bank or non-bank financial institutional investor).

A shareholder was classified as a dominant shareholder if they owned at least 25% and was the largest shareholder of the firm. The details used to identify ultimate shareholders have been already discussed in Section 4.4.2, Chapter 4. Finally, managerial ownership was taken to be the percentage of shares owned by all directors.

The set of other ownership variables (the ratio of the difference between largest and second largest shareholders and the ratio of cash flow rights to control rights) were defined in the same way as described in Sections 4.4.2 to 4.4.5 in Chapter 4 and the definition of all ownership variables is provided again in Table 5.4.

As discussed in Chapter 4, second largest shareholders may play some role in limiting opportunistic accounting discretion by managers and dominant shareholders. Therefore, the ratio of share difference between the largest and second largest shareholders was included in order to control for the effect of the second largest shareholders.

Additionally, the use of pyramidal and cross-shareholding structures may allow dominant owners to gain efficient control over financial reporting without owning a block of shares (Bennedsen and Nielsen, 2010; Fan and Wong, 2002). While these structures may increase the incentive of dominant shareholders to monitor firms, they also provide opportunities for them to divert corporate resources without too much cost (Bennedsen and Nielsen, 2010). Nevertheless, the net effects of these mechanisms depend on the relative predominance of alignment or entrenchment effects. Fan and Wong (2002) reveal that the intentional use of these structures to separate cash flow

rights from control rights may have led to low informativeness of accounting earnings in East Asian countries. Therefore, the ratio of cash flow to control rights (CV) was added as a control variable. It ranges from 0 to 1 and is closer to 0 if the divergence is large.

The literature suggests two possible effects of the second largest shareholders and a use of ratio of pyramidal and cross-shareholding structures on accounting discretion. Therefore, either positive or negative impacts of these variables are expected on accounting discretion.

### **5.3.5 Board of Directors and CEO Characteristics**

Board of directors, board structure and CEO characteristics are consistently defined here as they are in Section 4.4.5, Chapter 4, and shown again in Table 5.4.

### **5.3.6 Auditor Reputation and Expertise**

Emulating previous research, the size and reputation of audit firms was captured in the BIG4 variable and the length of audit tenure was taken to indicate their expertise. The dummy variable was defined as 1 if a firm was audited by a BIG4 audit firm otherwise it was 0.

Likewise, “auditor-partner tenure” was defined as the numbers of years for which a firm had retained their auditors. The dummy variable was then given a value of 1 if the auditor-partner had audited the firm for five years or more, which is based on the benchmark that has been used by the SECT for the regulation of auditor-partner rotation<sup>41</sup> since 2005, otherwise it was 0.

### **5.3.7 Other Economic Determinants**

#### **5.3.7.1 Leverage**

According to Watts and Zimmerman (1990: 139), high debt to equity ratios may motivate managers to exercise accounting discretion that increases income (“the

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<sup>41</sup> Notification of the Securities and Exchange Commission No. Kor.Chor 39/2548 (2005) Re: Rule, Condition and Procedure for Reporting Information Disclosure on Financial Status and Operating Result of Issuing Company (No.20), effective date 16/10/2005.



debt/equity hypothesis”), because they place firms closer to restrictions in debt covenants. As firms move closer to restrictions, the risk of violating their debt covenants increases. Debt violations create costs for firms, such as renegotiation costs, investment costs and costs from control rights being transferred to lenders (Chava and Roberts, 2008; Kim et al., 2010). Therefore, managers may be motivated to use accounting discretion in order to avoid violations of debt covenants (for examples, see DeFond and Jambalvo, 1994; Bowen et al. 2008; Ghosh and Moon, 2010; Kim et al., 2010; Watts and Zimmerman, 1990). Alternatively, managers in firms with high debts may use accounting discretion to convey private information about future profitability, thereby increasing the quality of earnings (Ghosh and Moon, 2010).

The existing literature reveals evidence that supports the debt/equity hypothesis. For example, DeFond and Jambalvo (1994) report the use of accounting discretion (abnormal total and working capital accruals) before the year of violation. Kim et al. (2010) found that tighter “net worth debt covenant slack” led to greater use of real earnings management, while the findings of Ghosh and Moon (2010) reveal a non-linear relationship between debt and earnings quality. They found that earnings quality (accruals) was higher at lower levels of debt and lower at higher levels of debt, indicating that managers may have been willing to exercise accounting discretion in order to avoid covenant violations if the benefits of avoiding them were greater than the cost incurred by having lower earnings quality.

The literature suggests two possible effects of leverage on managers’ accounting discretion. Therefore, either a positive or a negative impact of this variable is expected on managers’ accounting discretion.

### ***5.3.7.2 Firm Size, Firm Age and Growth***

Firm size, firm growth and firm age were included as control variables for other economic determinants that may influence the degree of managers’ accounting discretion. All definitions of these variables were discussed in Chapter 4.

Firm age is a proxy for a firm's business cycle, which may provide an incentive for managers to exercise accounting discretion (Stubben, 2010).

Regarding firm growth, Lakonishok et al. (1994) and Skinner and Sloan (2002) suggest that investors may have overoptimistic expectations about a firm's future performance in the case of high growth firms. A failure to meet investors' expectations may lead to subsequent losses in share price. In other words, a lower return in growth stock price is caused by errors in investors' expectations (Skinner and Sloan, 2002). Therefore, managers of high growth firms have incentives to manage earnings in order to meet earnings benchmarks and to avoid the subsequent loss (Bowen et al. 2008).

Regarding firm size, large firms are more likely to be followed and monitored by market participants (institutional investors or analysts) and regulators than smaller firms are (Das et al., 1998; Helwege et al., 2007). In addition, larger firms may be more likely to enforce the provision of better internal control systems and to bear higher costs in terms of their reputation than smaller firms are (Kim et al., 2003; Core et al., 1999; Himmelberg et al., 1999). Hence there is a lower likelihood that managers will exercise opportunistic accounting discretion in large firms than in small firms. However, larger firms may be forced to meet earnings benchmarks (analyst forecasts) (Barton and Simko, 2002). In addition, Watts and Zimmerman (1990) suggest that large firms tend to bear higher political costs and that managers therefore tend to exercise accounting discretion over accounting profits (income-decreasing profits).

Because the literature suggests two possible effects of these variables on managers' accounting discretion, either positive or negative impacts are expected.

**Table 5.4: Summary of All Dependent and Explanatory Variables Used in Chapter 5****Dependent Variables: Accounting Discretions**

<b>Variables</b>	<b>Description</b>
<b>One-Year Ahead Discretionary Accruals</b>	
$DA_{t+1}$ - Jones (1991)	Unsigned discretionary accruals based on cross-sectional Jones Model (1991) at time $t+1$
$DA_{t+1}$ - Dechow (1995)	Unsigned discretionary accruals based on cross-sectional Modified Jones Model (Dechow et al., 1995) at time $t+1$
<b>One-Year Ahead Discretionary (Sales) Revenues</b>	
$DR1_{t+1}$	Unsigned discretionary (sales) revenues, which calculated by annual revenue model (Stubben, 2010) at time $t+1$
$DR2_{t+1}$	Unsigned discretionary (sales) revenues, which calculated by annual conditional revenue model (Stubben, 2010) at time $t+1$
<b>One-Year Ahead Adjusted Discretionary Accruals</b>	
$DA\_DR1_{t+1}$	Unsigned discretionary accruals based on cross-sectional modified Jones model (Dechow et al., 1995) at time $t+1$ and adjusted with expected normal sales from annual revenue model, (Stubben, 2010)
$DA\_DR2_{t+1}$	Unsigned discretionary accruals based on cross-sectional modified Jones model (Dechow et al., 1995) at time $t+1$ and adjusted with expected normal sales from conditional annual revenue Model (Stubben, 2010)

**Explanatory Variables: Ownership Variables**

<b>Variables</b>	<b>Description</b>	<b>Expected effect on Accounting Discretions</b>
Concentrated Own	Percentage of shares owned by the largest shareholder	Positive or Negative
Family Own	Percentage of shares owned by family who is the largest shareholder in family shareholder's category	Positive or Negative
Government Own	Percentage of shares owned by government who is the largest shareholder in government shareholder's category	Positive or Negative
Foreign Company Own	Percentage of shares owned by foreign company who is the largest shareholder in foreign company shareholder's category	Positive or Negative
Domestic Company Own	Percentage of shares owned by domestic company who is the largest shareholder in domestic company shareholder's category	Positive or Negative
Bank Own	Percentage of shares owned by bank who is the largest shareholder in bank shareholder's category	Positive or Negative
Non-Bank Financial institution Own	Percentage of shares owned by non-bank financial institutional investor who is the largest shareholder in non-bank financial institutional investor shareholder's category (excluded insurance companies)	Positive or Negative

(This table is continued on the next pages)

**Table 5.4: Summary of All Dependent and Explanatory Variables Used in This Chapter (Cont')****Explanatory Variables: Ownership Variables**

<b>Variables</b>	<b>Description</b>	<b>Expected effect on Accounting Discretions</b>
Manager Own	Percentage of shares owned by all directors	Positive or Negative
D_Dominant	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Family	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the family largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Government	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the government largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Foreign Investors	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the foreign company largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Domestic Company	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the domestic company largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Bank	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the bank largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
D_Non-Bank Financial institutions	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the non-bank financial institutions largest shareholder and own equal or more than 25 percent of voting shares, otherwise equal to zero	Positive or Negative
<b>Explanatory Variables: Control Mechanisms</b>		
Ratio of Share Difference	The difference of shares owned by the largest and the second largest shareholders divided by shares owned by the largest shareholder	Positive or Negative
CV	The ratio of cash flow rights to voting rights	Positive or Negative

(This table is continued on the next pages)

Table 5.4: Summary of all dependent and explanatory variables used in this chapter (Cont')

**Explanatory Variables: Ownership Variables**

Variables	Description	Expected effect on Accounting Discretion
<b>Explanatory Variables: Board Structure</b>		
Board Size	Natural log of number of directors in the board	Positive or Negative
Board Independence	Number of Independent directors divided by total number of directors in the board	Positive or Negative
Board Experience	Number of directors who are directors of other companies divided by total number of directors in the board	Positive or Negative
<b>Explanatory Variables: CEO Characteristics</b>		
CEO Founder	Dummy variable, which equal to one if CEO is also a founder of the firm, otherwise as zero	Positive or Negative
CEO Son/Daughter	Dummy variable, which equal to one if CEO is founder's descendants, otherwise as zero	Positive or Negative
CEO-Chair	Dummy variable, which equal to one if firm has CEO who also serves as chairman, otherwise as zero	Positive or Negative
CEO-Group	Dummy variable, which equal to one if CEO and chairman come from the same family, otherwise as zero	Positive or Negative
<b>Explanatory Variables: Auditor Reputation and Expertise</b>		
BIG4	Dummy variable equal to one if firm is audited by Big 4 firms, otherwise equal to zero	Positive or Negative
Audit Partner Tenure	Dummy variable equal to one if the same audit partner audits the firm at least 5 years.	Positive or Negative
<b>Control Variables: Other Economic Determinants</b>		
Firm Size	Natural log of total assets at the year ended 31 December	Positive or Negative
Firm Age	Natural log of number of year since established	Positive or Negative
Firm Growth	An average of annual change in sales, average over three years, or available years, prior to the current year	Positive or Negative
Leverage	Ratio of total debt to total assets (at the year ended 31 December)	Positive or Negative
$\sigma$ CFO	Standard deviation of Cash flows from balance sheet approach	Positive or Negative
ROA	Current Earnings before interests and income taxes, scaled by book value of total assets (at the end of 31 December)	Positive or Negative

## 5.4 Sampling and Data Collection

This chapter focuses on a sample of non-financial firms in the SET from 1994 to 2007. Firms in the rehabilitation sector were excluded, as discussed in Chapter 4, and firms were classified into eight industry sectors according to the industry classifications of the SET (see Table 5.5). Data on accounting, ownership, board of directors and external auditors came from SETSMART database, and the details of this data and the method used to identify the ultimate shareholders have already been discussed in Chapter 4. The SETSMART also provided details of auditors, including the names of auditor partners, their audit firms and their clients (company name and year of audit).

Discretionary accruals and discretionary revenues were calculated using the methods discussed in Section 5.3.3. The SETSMART database provided only the net amount of property, plant and equipment (PPE). Therefore, gross PPE and depreciation accounts were obtained from DataStream (Code#WC02301 and Code#WC01148, respectively). All variables were winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

Regarding the research design, figures for ownership data, board of directors, external auditors and other economic determinants were constructed using data from the years 1994 to 2007. Because managers' accounting discretion can operate for short periods, one-year-ahead discretionary accruals were used to measure discretionary accruals and discretionary revenues from the base year for which the ownership structure, corporate governance and other economic determinants were identified (from 1995 to 2008). This may help to reduce some causality problems that arise between discretionary accruals and corporate governance variables (Bowen et al., 2008). With the exception of firms with missing values, which were excluded, no other criteria were used for selecting firms. Therefore, the sample used in this chapter consists of pooled cross-sectional data, which contains 3,229 firm-year observations<sup>42</sup> from 1994 to 2007. The sample was separated into data from before and after the corporate governance reforms (Pre-Reform

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<sup>42</sup> This firm-year observation was based on the use of discretionary accruals from the Jones (1991) models. The use of other approaches to measure discretionary accruals/revenues would result in unequal sample sizes due to missing data.

and Post-Reform). The year 1999 was a cut-off year, because it is the year in which the first corporate governance mechanism (the requirement of for three independent board members) was implemented after the financial crisis of 1997.

**Table 5.5 Distribution of Sample Firm-Year Observations Classified by Industry Sectors  
(Based on Jones Model Sample, DA1)**

Year	Indus 1	Indus 2	Indus 4	Indus 5	Indus 6	Indus 7	Indus 8	Indus 9	Total/Year
1994	25	17	20	29	1	24	10	0	126
1995	28	18	27	33	2	30	15	0	153
1996	30	22	31	32	2	35	17	0	169
1997	26	20	30	33	1	42	16	1	169
1998	30	23	29	34	0	49	18	1	184
1999	41	29	39	43	0	65	21	0	238
2000	42	29	41	44	0	62	23	0	241
2001	40	29	37	37	0	60	23	0	226
2002	40	28	36	35	8	59	25	0	231
2003	39	29	35	40	11	65	26	4	249
2004	40	32	35	51	12	69	34	0	273
2005	39	31	38	65	15	72	37	0	297
2006	41	32	60	74	17	81	30	0	335
2007	40	33	60	75	20	79	31	0	338
<b>Total /Industry</b>	<b>501</b>	<b>372</b>	<b>518</b>	<b>625</b>	<b>89</b>	<b>792</b>	<b>326</b>	<b>6</b>	<b>3,229</b>

**Note:** Industry sectors are consistently classified by the SET

<b>Ins. 1</b>	Argo & Food Industry
<b>Ins. 2</b>	Consumer Products
<b>Ins. 4</b>	Industrials
<b>Ins. 5</b>	Property & Construction
<b>Ins. 6</b>	Resources
<b>Ins. 7</b>	Services
<b>Ins. 8</b>	Technology
<b>Ins. 9</b>	Other

## 5.5 Results

### 5.5.1 Descriptive Statistics Analysis – Full Sample

Table 5.6, Panel A, presents the descriptive statistics of firm characteristics based on the Jones model (1991) (DA1). It shows that sample firms had total assets that averaged 9,792 million Baht, with a maximum of 892,000 million Baht and a minimum of 79.14 million Baht, indicating that the sample consists of large and small firms. Earnings before interests and taxes were about 973 million Baht for average firms in the sample and the return on assets averaged 7.06%, indicating that, on average, firms were able to efficiently allocate and manage their resources in order to generate earnings. In addition, on average, firms had 5,843 million baht of total liabilities, which was lower than the average total assets. While firms had about 3,708 million Baht of book value shareholder equity, they had about 7,581 million Baht of market capitalisation, indicating that, on average, they were valuable to investors.

Table 5.6, Panel B, presents descriptive statistics for the ownership structure, corporate governance and economic determinants variables. It shows that, on average, firms in the sample had high levels of ownership concentration. Additionally, on average, largest shareholders who are family owned 36% of the sample firms' voting shares, indicating that most of the largest shareholders who are family were dominant shareholders. Other types of largest shareholder owned shares ranging from 1% to 10%.

The ratio of share difference between the largest and second largest shareholders is about 0.637. This may imply that, on average, the control of the largest shareholders was close to absolute, which would have reduced the monitoring role of the second largest shareholders. The ratio of cash flow to voting rights is about 0.846, indicating that the two rights were not widely separated from each other. On average, boards of directors consisted of 12 directors, including 5 independent directors, and auditor-partners had about 6 years of experience in their clients' firms.

Table 5.6, Panel C, presents descriptive statistics for accounting discretion, measured by one-year ahead absolute discretionary accruals (DA1, DA2), absolute discretionary



revenues (DR1, DR2) and one-year ahead absolute adjusted discretionary accruals (DA2\_DR1, DA2\_DR2). It shows that, on average, all one-year ahead absolute discretionary accruals represented 10% of the previous year's total assets. Based only on accruals derived from sales revenues, firms, on average, had 3.50% and 3.00% of one-year ahead discretionary sales revenues based on the annual (DR1) and conditional revenues models (DR2), respectively. In addition, the means of the adjusted discretionary accruals (DA2\_DR1, DA2\_DR2) do not differ from those calculated in the original accruals-based models.

Pearson and Spearman correlation matrixes for all variables (based on DA1 sample) are presented in Panels A and B, in Table 5.7, respectively. The correlations between accounting discretion and other variables from Pearson and Spearman do not differ widely, but the correlation statistic suggests that there are some significant correlations between independent variables (ownership by types, board of directors, CEO characteristics and audit quality), and this may suggest that imperfect multicollinearity is present in the sample. Therefore, the VIF test was applied in the sensitivity analysis.

**Table 5.6: Descriptive Statistics - Full Sample during 1994 to 2007**

	No.	Mean	Median	SD	Maximum	Minimum
<b>Panel A: Firm Characteristics (Million Baht)</b>						
Total Assets	3,229	9,792	2,447	34,300	892,000	79.14
Total Liabilities	3,229	5,843	1,170	21,100	494,000	0.47
Total Equity	3,229	3,708	1,148	12,900	361,000	-23,600
Market Capitalisation	3,229	7,581	1,102	36,500	1,060,000	2.16
Total Sales	3,229	7,802	1,922	44,200	1,500,000	-645.59
EBIT	3,229	973	167	6,068	165,000	-25,800
Return on Assets (ROA)	3,229	7.06%	7.79%	10.43%	31.17%	-42.93%
<b>Panel B: Ownership structure, corporate governance and economic determinants variables</b>						
<b>Ownership Variables</b>						
<i><b>Ownership Concentration by the Largest Shareholders</b></i>						
Concentrated Own	3,229	42.25%	41.50%	18.21%	83.80%	7.50%
<i><b>Ownership Concentration by the Largest Shareholders within each Type</b></i>						
Family	3,229	35.96%	35.80%	21.73%	83.30%	0.00%
Government	3,229	1.17%	0.00%	6.22%	47.90%	0.00%
Foreign company	3,229	10.20%	3.90%	14.73%	66.80%	0.00%
Domestic company	3,229	2.09%	0.00%	7.30%	51.60%	0.00%
Bank	3,229	1.00%	0.00%	2.44%	12.20%	0.00%
Non-Bank Financial Institutions	3,229	2.16%	1.00%	3.35%	19.80%	0.00%
<i><b>Managerial Ownership</b></i>						
All Directors Ownership	3,229	38.80%	42.03%	24.53%	83.90%	0.00%
Executive Directors Ownership	3,229	6.35%	0.00%	15.00%	63.90%	0.00%
<b>Other Corporate Governance Mechanisms</b>						
<i><b>Control Mechanisms</b></i>						
Ratio of Share Difference	3,229	0.637	0.722	0.282	0.982	0.010
Ratio of Cash Flow Rights to Voting Rights (CV)	3,229	0.846	1.000	0.249	1.000	0.085

**Note:** All variables are winsorised at 1 and 99 percentiles

(This table is continued on the next pages)

Table 5.6: Descriptive Statistics - Full Sample during 1994 to 2007 (Cont')

	No.	Mean	Median	SD	Maximum	Minimum
<b>Other Corporate Governance Mechanisms (Cont')</b>						
<b><i>Board Structure</i></b>						
Number of Total Directors	3,229	12	12	4	32	3
Number of Independent Directors	3,229	5	6	2	18	0
Number of Directors who are appointed in Multiple Companies	3,229	5	4	3.8	26	0
Board Size	3,229	2.477	2.485	0.296	3.219	1.792
Board independence	3,229	0.466	0.462	0.216	1.000	0.080
Board Experience	3,229	0.392	0.375	0.240	0.933	0.000
<b><i>External Auditor</i></b>						
Auditor-Partner Tenure	3,229	6.071	5	3.701	18	1
<b>Other Control Variables</b>						
Number of Year Since Established	3,229	25	22	15	131	1
Firm Age (ln Age)	3,229	3.061	3.091	0.511	4.466	1.609
Leverage	3,229	0.501	0.498	0.256	1.322	0.040
Sales Growth	3,229	0.171	0.099	0.372	2.778	-0.408
Firm Size	3,229	14.911	14.710	1.319	18.610	12.632
<b>Panel C: Dependent Variables</b>						
<b>One-year-Ahead Discretionary Accruals (Absolute Value)</b>						
DA1 (Jones Model)	3,229	0.101	0.066	0.112	0.626	0.001
DA2 (Modified Jones Model)	3,151	0.100	0.066	0.110	0.621	0.001
<b>One-year-Ahead Discretionary Revenues (Absolute Value)</b>						
DR1 - Annual sales	3,737	0.035	0.022	0.042	0.248	0.000
DR2 - Conditional sales	3,735	0.030	0.019	0.033	0.193	0.000
<b>One-year-Ahead Adjusted Discretionary Accruals (Absolute Value)</b>						
DA2_DR1	3,151	0.099	0.065	0.110	0.621	0.001
DA2_DR2	3,151	0.099	0.065	0.110	0.621	0.001

**Note:** All variables are winsorised at 1 and 99 percentiles

**Table 5.7: Pearson Correlation Matrix and Spearman Correlation Matrix**

The table shows correlation matrixes of all variables based on Jones Model Sample used in this study. The total sample includes 3,229 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

		<b>Panel A: Pearson Correlation Matrix</b>											
<b>Variables</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
1	DA1 (Jones Model)	1.000											
2	Concentrated Own	-0.038	1.000										
3	Family Own	0.001	0.720*	1.000									
4	Government Own	-0.032	-0.005	-0.215*	1.000								
5	Foreign Com. Own	-0.051*	0.010	-0.468*	-0.036	1.000							
6	Domestic Com. Own	0.011	-0.043	-0.286*	0.015	0.005	1.000						
7	Bank Own	0.040	-0.118*	-0.144*	0.007	-0.069*	0.103*	1.000					
8	Non- Bank Fin. Own	0.046*	-0.154*	-0.155*	-0.009	-0.036	0.042	0.040	1.000				
9	Director Ownership	-0.007	0.491*	0.803*	-0.258*	-0.478*	-0.275*	-0.164*	-0.132*	1.000			
10	Executive Director	0.023	0.066*	0.168*	-0.076*	-0.125*	-0.082*	-0.080*	-0.016	0.243*	1.000		
11	Ratio of Share Difference	-0.015	0.737*	0.557*	-0.034	-0.194*	-0.073*	-0.096*	-0.130*	0.358*	0.079*	1.000	
12	CV	0.045	-0.145*	-0.184*	0.009	0.108*	-0.089*	-0.106*	0.096*	-0.055*	0.081*	-0.092*	1.000
13	Board Size	-0.003	-0.116*	-0.102*	0.173*	0.059*	0.072*	0.154*	-0.049*	-0.108*	-0.012	-0.137*	-0.311*
14	Board Independence	-0.047*	0.083*	0.003	0.003	0.024	-0.033	-0.070*	-0.085*	0.008	0.013	0.059*	0.201*
15	Board Experience	-0.013	0.100*	0.117*	0.125*	-0.049*	-0.011	0.157*	-0.061*	-0.036	-0.083*	0.119*	-0.313*
16	CEO Founder	-0.027	-0.080*	0.060*	-0.098*	-0.154*	-0.074*	-0.091*	-0.037	0.203*	0.217*	-0.017	0.177*
17	CEO Descendant	-0.031	0.160*	0.232*	-0.060*	-0.093*	-0.076*	-0.003	-0.031	0.201*	0.122*	0.152*	-0.045*
18	CEO-Chair	-0.018	0.008	0.120*	-0.068*	-0.116*	-0.086*	-0.073*	-0.029	0.170*	0.082*	0.051*	0.094*
19	CEO-Group	-0.002	0.174*	0.228*	-0.072*	-0.097*	-0.027	0.006	-0.071*	0.202*	0.056*	0.171*	0.036
20	BIG4	-0.042	-0.051*	-0.179*	-0.009	0.288*	0.076*	0.045*	-0.047*	-0.210*	-0.058*	-0.088*	0.084*
21	Auditor Tenure	-0.028	0.031	0.038	-0.008	-0.027	-0.028	0.033	0.011	0.038	-0.059*	0.033	-0.066*
22	Firm Size	-0.017	-0.008	-0.096*	0.238*	0.114*	0.017	0.014	-0.113*	-0.214*	-0.032	0.065*	-0.063*
23	Firm Age	-0.111*	0.064*	0.017	-0.093*	0.099*	0.052*	0.033	-0.101*	-0.019	-0.056*	0.034	-0.013
24	Sales Growth	0.003	-0.048*	-0.066*	0.096*	-0.011	-0.022	-0.006	-0.013	-0.094*	-0.007	0.008	0.008
25	Leverage	0.294*	-0.021	0.030	-0.017	-0.076*	0.010	0.057*	0.061*	-0.005	0.047*	0.018	-0.005

(This table is continued on the next page)

**Table 5.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables based on Jones Model Sample used in this study. The total sample includes 3,229 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

		<b>Panel A: Pearson Correlation Matrix (Cont')</b>											
<b>Variables</b>		<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
13	Board Size	1.000											
14	Board Independence	-0.408*	1.000										
15	Board Experience	0.212*	-0.099*	1.000									
16	CEO Founder	-0.137*	0.097*	-0.158*	1.000								
17	CEO Descendant	0.088*	0.033	0.070*	-0.207*	1.000							
18	CEO-Chair	-0.128*	0.120*	-0.036	0.463*	0.068*	1.000						
19	CEO-Group	-0.004	0.043	-0.006	-0.092*	0.472*	-0.169*	1.000					
20	BIG4	0.019	0.026	0.112*	-0.048*	-0.028	-0.054*	-0.058*	1.000				
21	Auditor Tenure	0.003	-0.138*	0.006	-0.061*	-0.035	-0.028	0.014	-0.077*	1.000			
22	Firm Size	0.227*	-0.046*	0.374*	-0.091*	0.079*	-0.036	0.016	0.210*	-0.065*	1.000		
23	Firm Age	0.112*	0.067*	0.107*	-0.098*	0.049*	-0.008	0.080*	0.033	0.006	-0.114*	1.000	
24	Sales Growth	-0.016	-0.028	0.075*	0.004	-0.011	-0.026	-0.013	0.057*	-0.028	0.205*	-0.233*	1.000
25	Leverage	0.003	-0.105*	0.089*	0.018	0.003	0.007	0.025	0.000	-0.034	0.282*	-0.151*	0.018

**Table 5.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables based on Jones Model Sample used in this study. The total sample includes 3,229 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

		Panel B: Spearman Correlation Matrix											
Variables		1	2	3	4	5	6	7	8	9	10	11	12
1	DA1 (Jones Model)	1.000											
2	Concentrated Own	-0.036	1.000										
3	Family Own	-0.012	0.717*	1.000									
4	Government Own	-0.052*	-0.039	-0.149*	1.000								
5	Foreign Com. Own	-0.018	-0.210*	-0.443*	0.021	1.000							
6	Domestic Com. Own	0.051*	-0.196*	-0.272*	0.046*	0.031	1.000						
7	Bank Own	0.042	-0.141*	-0.154*	0.069*	-0.001	0.153*	1.000					
8	Non- Bank Fin. Own	0.066*	-0.214*	-0.166*	0.008	0.000	0.035	0.066*	1.000				
9	Director Ownership	-0.020	0.512*	0.806*	-0.236*	-0.474*	-0.255*	-0.179*	-0.153*	1.000			
10	Executive Director	0.004	-0.124*	0.024	-0.144*	-0.120*	-0.027	-0.056*	-0.007	0.176*	1.000		
11	Ratio of Share Difference	-0.010	0.792*	0.600*	-0.011	-0.331*	-0.176*	-0.111*	-0.097*	0.403*	-0.075*	1.000	
12	CV	0.022	-0.194*	-0.266*	0.013	0.125*	-0.018	-0.060*	0.052*	-0.135*	0.073*	-0.152*	1.000
13	Board Size	-0.020	-0.115*	-0.111*	0.173*	0.142*	0.110*	0.172*	-0.038	-0.115*	-0.019	-0.147*	-0.274*
14	Board Independence	-0.057*	0.068*	-0.003	-0.012	-0.053*	-0.069*	-0.080*	-0.153*	0.012	0.010	0.050*	0.199*
15	Board Experience	0.001	0.087*	0.101*	0.170*	0.072*	0.014	0.148*	-0.059*	-0.050*	-0.138*	0.100*	-0.316*
16	CEO Founder	-0.037	-0.089*	0.055*	-0.086*	-0.107*	-0.047*	-0.099*	0.015	0.192*	0.246*	-0.021	0.150*
17	CEO Descendant	-0.027	0.173*	0.241*	-0.021	-0.046*	-0.084*	-0.001	-0.025	0.196*	0.022	0.148*	-0.089*
18	CEO-Chair	-0.017	0.003	0.118*	-0.004	-0.057*	-0.067*	-0.076*	0.030	0.156*	0.057*	0.047*	0.072*
19	CEO-Group	0.008	0.186*	0.233*	-0.072*	-0.045	-0.057*	-0.020	-0.073*	0.200*	-0.044	0.182*	-0.020
20	BIG4	-0.032	-0.060*	-0.184*	0.040	0.286*	0.066*	0.070*	-0.023	-0.209*	-0.090*	-0.091*	0.071*
21	Auditor Tenure	-0.027	0.032	0.039	-0.048*	-0.019	-0.039	-0.020	0.059*	0.037	-0.063*	0.040	-0.055*
22	Firm Size	0.002	-0.017	-0.086*	0.217*	0.279*	0.062*	0.122*	-0.059*	-0.196*	-0.068*	0.061*	-0.089*
23	Firm Age	-0.113*	0.066*	0.018	-0.007	0.078*	0.004	0.018	-0.143*	-0.008	-0.078*	0.026	-0.045
24	Sales Growth	-0.001	-0.039	-0.045*	0.058*	0.042	-0.011	-0.021	-0.017	-0.079*	0.002	0.017	0.016
25	Leverage	0.187*	-0.026	0.027	-0.016	-0.033	0.098*	0.091*	0.097*	-0.009	-0.005	0.027	-0.066*

(This table is continued on the next page)

**Table 5.7: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables based on Jones Model Sample used in this study. The total sample includes 3,229 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisks (\*) denote statistical significance at 1% level.

Variables		Panel B: Spearman Correlation Matrix (Cont')											
		13	14	15	16	17	18	19	20	21	22	23	24
13	Board Size	1.000											
14	Board Independence	-0.391*	1.000										
15	Board Experience	0.231*	-0.103*	1.000									
16	CEO Founder	-0.132*	0.102*	-0.165*	1.000								
17	CEO Descendant	0.087*	0.039	0.077*	-0.207*	1.000							
18	CEO-Chair	-0.129*	0.116*	-0.044	0.463*	0.068*	1.000						
19	CEO-Group	-0.013	0.046*	-0.009	-0.092*	0.472*	-0.169*	1.000					
20	BIG4	0.017	0.041	0.121*	-0.048*	-0.028	-0.054*	-0.058*	1.000				
21	Auditor Tenure	0.018	-0.145*	0.001	-0.061*	-0.035	-0.028	0.014	-0.077*	1.000			
22	Firm Size	0.192*	-0.043	0.366*	-0.078*	0.084*	-0.006	0.022	0.212*	-0.072*	1.000		
23	Firm Age	0.137*	0.057*	0.096*	-0.103*	0.050*	-0.015	0.078*	0.025	-0.010	-0.117*	1.000	
24	Sales Growth	-0.043	-0.024	0.094*	0.002	0.002	-0.031	0.007	0.075*	-0.039	0.265*	-0.184*	1.000
25	Leverage	-0.006	-0.122*	0.097*	0.024	0.005	0.009	0.020	0.016	-0.036	0.318*	-0.175*	0.071*

## 5.5.2 Univariate Analysis

### *5.5.2.1 Managers' Accounting Discretion in Firms With and Without Dominant Shareholders*

Panel A, in Table 5.8, presents the mean comparisons of accounting discretion between firms with and without the presence of dominant shareholders. Panel B focuses only on firms with dominant shareholders and presents the mean comparisons of accounting discretion among different types of dominant shareholders.

Panel A shows that, on average, the magnitude of discretionary accruals was not significantly different between firms with and without dominant shareholders. Nevertheless, it seems that firms without dominant shareholders had a greater magnitude of discretionary revenues (DR1) than firms with dominant shareholders had.

Panel B shows that firms with dominant family shareholders appear to have had a greater magnitude of discretionary accruals (DA1, DA2, DA2\_DR1, DA2\_DR2) and revenues (DR1) than firms with other types of dominant shareholder had. While firms with dominant government shareholders appear to have had a smaller magnitude of discretionary revenues (DR2), firms with dominant bank shareholders seem to have had a smaller magnitude of discretionary accruals. Firms with dominant foreign shareholders appear to have had a smaller magnitude of discretionary accruals but a greater magnitude of discretionary revenues (DR1). Finally, firms with non-bank financial institutions acting as dominant shareholders seem to have had a greater magnitude of discretionary revenues (DR1).

Overall, these results suggest that each type of dominant shareholder may have different motivations and abilities to either encourage or limit the use of managers' accounting discretion.



Table 5.8: Univariate Analysis – Full Sample

**Panel A: A Mean Comparison of Accounting Discretions between Firms with and without Dominant Shareholders**

	Firm without Dominant Shareholders (1)		Firm with Dominant Shareholders (2)		Mean Diff. (2)-(1)			Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		t-test		z	p
						t	p		
DA1	617	0.107	2,612	0.099	-0.008	-1.51	0.131	-1.29	0.197
DA2	587	0.105	2,564	0.098	-0.007	-1.31	0.191	-1.35	0.176
DR1	721	0.038	3,016	0.034	-0.004	-2.13	0.033	1.00	0.319
DR2	721	0.030	3,014	0.030	-0.000	-0.00	0.998	1.90	0.058
DA2_DR1	587	0.105	2,564	0.098	-0.006	-1.27	0.205	-1.40	0.163
DA2_DR2	587	0.105	2,564	0.098	-0.007	-1.29	0.198	-1.42	0.155

**Panel B: A Mean Comparison of Accounting Discretions Among Different Types of Dominant Shareholders***Firms with Dominant Family Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Types of Dominant Shareholders (1)		Firms with Dominant Family Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	543	0.087	2,069	0.103	0.016	2.93	0.003	1.99	0.046
DA2	533	0.086	2,031	0.102	0.016	3.03	0.003	1.79	0.073
DR1	607	0.037	2,409	0.034	-0.003	-1.76	0.078	-2.26	0.024
DR2	607	0.030	2,407	0.030	-0.001	-0.60	0.546	-0.51	0.613
DA2_DR1	533	0.085	2,031	0.102	0.016	3.07	0.002	1.89	0.059
DA2_DR2	533	0.085	2,031	0.102	0.016	3.04	0.002	1.74	0.082

*Firms with Dominant Government Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Dominant Shareholders (1)		Firms with Dominant Government Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	2,546	0.100	66	0.081	-0.019	-1.40	0.162	-1.83	0.067
DA2	2,498	0.099	66	0.083	-0.016	-1.18	0.237	-1.43	0.152
DR1	2,948	0.034	68	0.029	-0.006	-1.16	0.245	-0.64	0.524
DR2	2,946	0.030	68	0.016	-0.014	-3.46	0.001	-4.09	0.000
DA2_DR1	2,498	0.099	66	0.082	-0.016	-1.19	0.233	-1.45	0.147
DA2_DR2	2,498	0.099	66	0.082	-0.017	-1.24	0.216	-1.48	0.139

(This table is continued on the next page)

Table 5.8: Univariate Analysis – Full Sample (Cont')

**Panel B: A Mean Comparison of Accounting Discretions Among Different Types of Dominant Shareholders (Cont')**

*Firms with Dominant Foreign Company Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Types of Dominant Shareholders (1)		Firms with Dominant Foreign Company Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	2,227	0.102	385	0.086	-0.015	-2.52	0.011	-1.86	0.063
DA2	2,187	0.101	377	0.084	-0.016	-2.70	0.007	-1.72	0.085
DR1	2,589	0.034	427	0.038	0.005	2.17	0.030	2.40	0.016
DR2	2,587	0.029	427	0.032	0.003	1.64	0.101	2.10	0.036
DA2_DR1	2,187	0.101	377	0.084	-0.017	-2.74	0.006	-1.83	0.068
DA2_DR2	2,187	0.101	377	0.084	-0.017	-2.72	0.007	-1.75	0.080

*Firms with Dominant Domestic Company Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Types of Dominant Shareholders (1)		Firms with Dominant Domestic Company Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	2,552	0.099	60	0.101	0.001	0.08	0.938	1.47	0.143
DA2	2,504	0.098	60	0.099	0.001	0.02	0.988	1.24	0.215
DR1	2,936	0.034	80	0.035	0.001	0.05	0.958	0.50	0.618
DR2	2,934	0.030	80	0.031	0.002	0.44	0.661	-0.35	0.725
DA2_DR1	2,504	0.098	60	0.098	0.000	0.00	0.992	1.20	0.229
DA2_DR2	2,504	0.098	60	0.099	0.001	0.06	0.954	1.39	0.164

*Firms with Dominant Domestic Bank Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Types of Dominant Shareholders (1)		Firms with Dominant Bank Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	2,594	0.100	18	0.047	-0.053	-2.02	0.044	-2.27	0.023
DA2	2,548	0.099	16	0.045	-0.054	-1.96	0.050	-2.20	0.028
DR1	3,000	0.034	16	0.028	-0.006	-0.61	0.541	-0.54	0.588
DR2	2,998	0.030	16	0.029	-0.000	-0.06	0.951	0.41	0.684
DA2_DR1	2,548	0.098	16	0.045	-0.053	-1.94	0.052	-2.16	0.031
DA2_DR2	2,548	0.099	16	0.046	-0.053	-1.93	0.054	-2.13	0.033

(This table is continued on the next page)

Table 5.8: Univariate Analysis – Full Sample (Cont')

**Panel B: A Mean Comparison of Accounting Discretions Among Different Types of Dominant Shareholders (Cont')***Firms with Dominant Non-Bank Financial Institutional Shareholders v.s. Firms with Other Types of Dominant Shareholders*

	Firms with Other Types of Dominant Shareholders (1)		Firms with Dominant Non- Bank Institutional Shareholders (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
DA1	2,598	0.099	14	0.131	0.032	1.08	0.280	1.46	0.143
DA2	2,550	0.098	14	0.125	0.027	0.92	0.356	1.28	0.201
DR1	3,000	0.034	16	0.056	0.022	2.18	0.030	1.67	0.095
DR2	2,998	0.030	16	0.043	0.013	1.61	0.107	1.44	0.150
DA2_DR1	2,550	0.098	14	0.125	0.027	0.93	0.355	1.34	0.181
DA2_DR2	2,550	0.098	14	0.126	0.028	0.94	0.345	1.44	0.149

**Note:** All variables are winsorised at 1 and 99 percentiles**5.5.2.2 Before and After the Corporate Governance Reforms**

Table 5.9, Panels A, B and C, show the mean comparisons of firm characteristics, ownership variables, other corporate governance variables and proxies for accounting discretion between the periods before and after the corporate governance reforms.

Overall, Table 5.9, Panel A, suggests that the sample firms became bigger in terms of total assets, book value of equity, market value of equity, sales and earnings after the reforms. The significant reduction in return on assets (8.06% to 7.16%) suggests that listed firms, on average, were still able to generate their earnings from their assets but were less efficient after the reforms. In addition, firms, on average, had smaller total liabilities after the reforms, but, based on mean comparison, this is not significant. After the financial crisis in 1997, it may have been more difficult for listed firms to access loans from banks because the Bank of Thailand had enforced more restrictive credit policies.

Panel B shows that, on average, while the proportions of shares owned by family and financial institutional investors significantly reduced after the reforms (37.8% to 35.2% and 1.8% to 0.09%), ownership by other types of shareholder appears to have increased, which may imply that family ownership was distributed to other shareholders and financial institutional investors slowed their investment due to the financial crisis. It also appears that listed firms, on average, had larger boards of directors and included more independent directors after the reforms. This may have resulted from the requirement for listed firms to appoint at least three independent directors. Auditor-partner tenure significantly reduced after the reforms, suggesting that most of the listed firms had often changed their auditors.

Panel C shows that, on average, firms exercised less accounting discretion, measured by discretionary accruals, discretionary revenues and adjusted discretionary accruals according to all the models, after the reforms. The preliminary evidence suggests that the corporate governance reforms may have helped to limit the use of accounting discretion by managers.

**Table 5.9: Univariate Analysis – A Mean Comparison of Variables between before and after the Corporate Governance Reforms****Panel A: Firm Characteristics**

	<b>Pre-Reform 1994 to 1998 (1)</b>		<b>Post- Reform 2000 to 2007 (2)</b>		<b>Mean Diff. (2)-(1)</b>	<b>t-test</b>		<b>Wilcoxon Rank- Sum Test</b>	
	<b>No.</b>	<b>Mean</b>	<b>No.</b>	<b>Mean</b>		<b>t</b>	<b>p</b>	<b>z</b>	<b>p</b>
<b><i>Firm Characteristics</i></b>									
Total Assets	801	9,008	2,190	10,300	1,249	0.86	0.39	-2.45	0.01
Total Liabilities	801	6,317	2,190	5,686	-631	-0.72	0.47	-6.35	0.00
Total Equity	801	2,462	2,190	4,317	1,855	3.39	0.00	4.12	0.00
Market Capitalisation	801	4,864	2,190	8,920	4,056	2.61	0.01	4.28	0.00
Total Sales	801	4,201	2,190	9,530	5,329	2.82	0.00	4.29	0.00
EBIT	801	642	2,190	1,175	533	2.06	0.04	-1.96	0.05
ROA	801	8.06%	2,190	7.16%	-0.90%	-2.17	0.03	-1.62	0.10

**Panel B: Ownership structure, Corporate Governance and Other Economic Determinants Variables****Ownership Concentration*****Ownership Concentration by the Largest Shareholders***

Concentrated Own	801	41.11%	2,190	42.37%	1.26%	0.35	0.73	0.15	0.88
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***Ownership Concentration by the Largest Shareholders within each Type***

Family	801	37.80%	2,190	35.20%	-2.6%	-2.93	0.00	-3.08	0.00
Government	801	0.60%	2,190	1.40%	0.80%	2.98	0.00	2.47	0.01
Foreign company	801	8.90%	2,190	10.60%	2.5%	2.89	0.00	-0.72	0.47
Domestic company	801	1.90%	2,190	2.10%	0.20%	0.66	0.51	-2.28	0.02
Bank	801	0.90%	2,190	1.00%	0.01%	0.95	0.34	0.27	0.79
Non-Bank Financial Institutions	801	2.80%	2,190	1.80%	-1.00%	-6.85	0.00	-11.84	0.00

***Managerial Ownership***

Director Ownership	801	39.70%	2,190	38.30%	-1.40%	-1.35	0.17	-1.25	0.21
Executive Director Ownership	801	6.31%	2,190	6.39%	0.08%	0.14	0.89	0.94	0.35

(This table is continued on the next page)

**Table 5.9: Univariate Analysis – A Mean Comparison of Variables between before and after the Corporate Governance Reforms (Cont')**

**Panel B: Ownership structure, Corporate Governance and Other Economic Determinants Variables (Cont')**

	Pre-Reform 1994 to 1998 (1)		Post- Reform 2000 to 2007 (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- Sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
<b>Other Corporate Governance Mechanisms</b>									
<i><b>Control Mechanisms</b></i>									
CV	801	0.83	2,190	0.851	0.021	2.08	0.04	4.03	0.00
Ratio of Share Difference	801	0.66	2,190	0.631	-0.032	2.79	0.01	-3.41	0.00
<i><b>Board Structure</b></i>									
Number of Total Directors	801	12.16	2,190	12.44	0.275	1.73	0.08	3.16	0.0016
Number of Independent Directors	801	2.38	2,190	6.542	4.162	64.86	0.00	40.88	0.00
Number of Directors who are appointed in Multiple Companies	801	5.38	2,190	4.93	-0.45	-2.91	0.00	-2.47	0.00
Board Size	801	2.44	2,190	2.48	0.04	3.28	0.00	3.16	0.00
Board Independence	801	0.22	2,190	0.56	0.34	52.57	0.00	38.92	0.00
Board Experience	801	0.42	2,190	0.38	-0.04	-3.96	0.00	-3.53	0.00
<i><b>External Auditor</b></i>									
Auditor-Partner Tenure	801	6.99	2,190	5.64	-1.35	-9.04	0.00	-11.17	0.00
<b>Other Economic Determinants Variables</b>									
Number of Year Since Established	801	22	2,190	26	4	6.00	0.00	9.16	0.00
Age (ln Age)	801	2.92	2,190	3.12	0.20	9.43	0.00	9.16	0.00
Leverage	801	0.59	2,190	0.46	-0.13	-12.32	0.00	-12.30	0.00
Sales Growth	801	0.21	2,190	0.17	-0.04	-2.81	0.01	-4.79	0.00
Firm Size	801	15.00	2,190	14.90	-0.10	-1.87	0.06	-2.44	0.01

(This table is continued on the next page)

**Table 5.9: Univariate Analysis – A Mean Comparison of Variables between before and after the Corporate Governance Reforms (Cont')****Panel C: Dependent Variables: Accounting Discretions**

	Pre-Reform 1994 to 1998 (1)		Post- Reform 2000 to 2007 (2)		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank- Sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
<b>One-year-Ahead Discretionary Accruals (Absolute Value)</b>									
DA1 (Jones Model)	801	0.12	2,190	0.09	-0.03	-6.15	0.00	-6.46	0.00
DA2 (Modified Jones Model)	774	0.11	2,148	0.09	-0.02	-5.84	0.00	-6.30	0.00
<b>One-year-Ahead Discretionary Revenues (Absolute Value)</b>									
DR1 - Annual sales	1,344	0.04	2,155	0.03	-0.01	-5.58	0.00	-6.72	0.00
DR2 - Conditional sales	1,343	0.04	2,155	0.03	-0.01	-7.28	0.00	-8.43	0.00
<b>One-year-Ahead Adjusted Discretionary Accruals (Absolute Value)</b>									
DA2_DR1	774	0.11	2,148	0.09	-0.02	-5.71	0.00	-6.15	0.00
DA2_DR2	774	0.11	2,148	0.09	-0.02	-5.68	0.00	-6.11	0.00

**Note:** All variables are winsorised at 1 and 99 percentiles

### 5.5.3 Multivariate Analysis

#### 5.5.3.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Managers' Accounting Discretion

Regarding the hypotheses  $H_{a1}$  and  $H_{a2}$ , this section investigates the impact of ownership concentration (Model 5.1) and the presence of dominant shareholders (Model 5.2) on managers' accounting discretion. The results are shown in Panels A and B in Table 5.10, respectively.

##### 5.5.3.1.1 Discretionary Accruals and Adjusted Discretionary Accruals

Panels A and B in Table 5.10 show that none of the coefficients of Concentrated Own and D\_Dominant are significantly related to unsigned discretionary accruals, as measured by all models. The evidence does not strongly support the alignment effect

( $H_{a1}$  and  $H_{a2}$ ) and suggests that levels of ownership concentration and the presence of dominant shareholders had no significant impact on the magnitude of managers' accounting discretion over accruals.

These findings are partly consistent with those of Farooq et al. (2012), who found no association between levels of ownership concentration and discretionary accruals. However, while they found that the presence of dominant shareholders may limit accounting discretion, this study finds no significant relationship between these variables. Additionally, these findings are inconsistent with others in previous literature, such as those of Azofra et al. (2003), which indicate a negative relationship between ownership concentration and absolute discretionary accruals in Spain, and Zhong et al. (2007), which indicate a positive relationship between outside blockholders and discretionary accruals in the US.

Nevertheless, the insignificant results shown in this section may be due to the different motivations of each type of shareholder to participate in monitoring. Therefore, the types of shareholder will be taken into account in the subsequent sections.

#### **5.5.3.1.2 Discretionary Revenues**

The results from Panel A show that the coefficient of Concentrated Own is negatively and significantly associated only in the case of unsigned discretionary revenues with annual sales (DR1). Hence the magnitude of discretionary revenues decreases as levels of ownership increase. The result supports the alignment effect ( $H_{a1}$ ) and suggests that levels of ownership may motivate the largest shareholders to participate in financial reporting, particularly in respect to revenues from sales accounts, in turn limiting some accounting discretion.

The inconsistent results obtained from accruals and revenues-based approaches may be caused by the fact that managers' accounting discretion over accruals is more complicated and difficult for the largest shareholders to verify than revenues accounts are, as accruals combine the effect of all accounting methods and policies into the single account (Watt and Zimmerman, 1990, Young, 1999).



However, the results in Panel B show that there is no significant relationship between the presence of dominant shareholders and discretionary revenues measured by DR1 and DR2.

**Table 5.10: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

**Panel A: An Impact of Ownership Concentration and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Model 5.1:**  $AD_{i,t+1} = \beta_0 + \beta_1 \text{Concentrated Own}_{it} + \beta_2 \text{Share Difference}_{it} + \beta_3 \text{CV}_{it} + \gamma_1 \text{Board Size}_{it} + \gamma_2 \text{Board Independence}_{it} + \gamma_3 \text{Board Experience}_{it} + \delta_1 \text{CEO Founder}_{it} + \delta_2 \text{CEO Descendant}_{it} + \delta_3 \text{CEO-Chair}_{it} + \delta_4 \text{CEO-Group}_{it} + \chi_1 \text{BIG4}_{it} + \chi_2 \text{Auditor Tenure}_{it} + \eta_1 \text{Firm Size}_{it} + \eta_2 \text{Firm Age}_{it} + \eta_3 \text{Firm Growth}_{it} + \eta_4 \text{Leverage}_{it} + \eta_5 \text{Industry dummy} + \eta_6 \text{Year dummy} + \varepsilon_{it}$

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	t	DA2	t	DR1	t	DR2	t	DA2 DR1	t	DA2 DR2	t
Concentrated Own	-0.007	(-0.48)	-0.017	(-1.10)	-0.011*	(-1.93)	-0.005	(-1.04)	-0.017	(-1.13)	-0.018	(-1.19)
Share Difference	0.009	(0.96)	0.012	(1.27)	0.003	(0.91)	0.002	(0.87)	0.013	(1.36)	0.013	(1.37)
CV	0.024***	(3.00)	0.020**	(2.51)	0.000	(-0.16)	0.001	(0.34)	0.020**	(2.50)	0.019**	(2.44)
Board Size	0.020**	(2.00)	0.018*	(1.74)	-0.010***	(-2.84)	-0.010***	(-3.92)	0.018*	(1.75)	0.018*	(1.77)
Board Independence	0.023	(1.32)	0.027	(1.61)	-0.001	(-0.15)	-0.006	(-1.41)	0.027	(1.58)	0.027	(1.60)
Board Experience	0.002	(0.24)	0.001	(0.10)	-0.004	(-1.30)	-0.003	(-1.05)	0.001	(0.14)	0.002	(0.23)
CEO Founder	-0.018***	(-3.51)	-0.018***	(-3.58)	-0.003	(-1.22)	-0.003*	(-1.65)	-0.018***	(-3.49)	-0.018***	(-3.56)
CEO Descendant	-0.013**	(-2.15)	-0.013**	(-2.16)	-0.003	(-1.28)	-0.001	(-0.51)	-0.013**	(-2.16)	-0.014**	(-2.23)
CEO-Chair	0.002	(0.32)	0.001	(0.22)	-0.002	(-0.78)	0.001	(0.65)	0.001	(0.20)	0.001	(0.22)
CEO-Group	0.003	(0.49)	0.004	(0.69)	0.002	(0.67)	0.001	(0.29)	0.004	(0.69)	0.004	(0.73)
BIG 4	-0.002	(-0.52)	0.00002	(0.00)	-0.002	(-1.40)	-0.002*	(-1.66)	0.0003	(0.09)	-0.0002	(-0.06)
Audit Partner Tenure	-0.009**	(-2.20)	-0.009**	(-2.33)	-0.003*	(-1.68)	-0.002	(-1.27)	-0.009**	(-2.35)	-0.009**	(-2.35)

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**Table 5.10: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel A: An Impact of Ownership Concentration and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
Firm Size	-0.012***	(-6.48)	-0.012***	(-5.90)	-0.006***	(-8.48)	-0.003***	(-5.37)	-0.012***	(-5.90)	-0.012***	(-5.95)
Firm Age	-0.017***	(-3.95)	-0.018***	(-4.16)	-0.005***	(-3.35)	-0.003**	(-2.43)	-0.018***	(-4.18)	-0.018***	(-4.12)
Firm Growth	0.002	(0.31)	0.004	(0.71)	0.004*	(1.75)	0.003*	(1.73)	0.004	(0.71)	0.004	(0.63)
Leverage	0.128***	(11.06)	0.123***	(10.29)	0.012***	(3.64)	0.003	(1.27)	0.122***	(10.26)	0.123***	(10.32)
Constant	0.218***	(6.10)	0.218***	(6.26)	0.153***	(13.15)	0.105***	(11.91)	0.219***	(6.30)	0.219***	(6.27)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.142		0.131		0.087		0.073		0.129		0.130	
F-test	9.987		9.022		9.439		7.170		8.949		8.989	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

**Table 5.10: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel B: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Model 5.2:**  $AD_{i,t+1} = \beta_0 + \beta_1 D\_Dominant_{it} + \beta_2 Share\ Difference_{it} + \beta_3 CV_{it} + \gamma_1 Board\ Size_{it} + \gamma_2 Board\ Independence_{it} + \gamma_3 Board\ Experience_{it} + \delta_1 CEO\ Founder_{it} + \delta_2 CEO\ Descendant_{it} + \delta_3 CEO\_Chair_{it} + \delta_4 CEO\_Group_{it} + \chi_1 BIG4_{it} + \chi_2 Auditor\ Tenure_{it} + \eta_1 Firm\ Size_{it} + \eta_2 Firm\ Age_{it} + \eta_3 Firm\ Growth_{it} + \eta_4 Leverage_{it} + \eta_5 Industry\ dummy + \eta_6 Year\ dummy + \varepsilon_{it}$

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
D_Dominant	0.0003	(0.06)	-0.0003	(-0.05)	-0.001	(-0.49)	0.002	(0.92)	-0.0002	(-0.04)	-0.0004	(-0.08)
Share Difference	0.006	(0.76)	0.005	(0.62)	-0.001	(-0.33)	-0.001	(-0.32)	0.005	(0.71)	0.005	(0.69)
CV	0.024***	(3.06)	0.021***	(2.66)	0.000	(0.01)	0.001	(0.53)	0.021***	(2.66)	0.021***	(2.59)
Board Size	0.020**	(2.02)	0.018*	(1.80)	-0.009***	(-2.72)	-0.010***	(-3.89)	0.018*	(1.81)	0.019*	(1.83)
Board Independence	0.022	(1.30)	0.027	(1.58)	-0.001	(-0.16)	-0.007	(-1.46)	0.026	(1.55)	0.027	(1.57)
Board Experience	0.002	(0.23)	0.001	(0.07)	-0.004	(-1.35)	-0.003	(-1.08)	0.001	(0.12)	0.002	(0.21)
CEO Founder	-0.018***	(-3.49)	-0.018***	(-3.51)	-0.002	(-1.11)	-0.003	(-1.61)	-0.017***	(-3.41)	-0.018***	(-3.48)
CEO Descendant	-0.013**	(-2.17)	-0.013**	(-2.18)	-0.003	(-1.32)	-0.001	(-0.60)	-0.013**	(-2.18)	-0.014**	(-2.26)
CEO-Chair	0.002	(0.32)	0.001	(0.22)	-0.002	(-0.79)	0.001	(0.66)	0.001	(0.20)	0.001	(0.22)
CEO-Group	0.003	(0.47)	0.004	(0.63)	0.001	(0.54)	0.000	(0.19)	0.004	(0.63)	0.004	(0.67)
BIG 4	-0.002	(-0.55)	-0.0002	(-0.05)	-0.002	(-1.48)	-0.002*	(-1.73)	0.0001	(0.03)	-0.0005	(-0.12)
Audit Partner Tenure	-0.009**	(-2.20)	-0.009**	(-2.31)	-0.003*	(-1.69)	-0.002	(-1.30)	-0.009**	(-2.33)	-0.009**	(-2.33)

(This table is continued on the next page)

**Table 5.10: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel B: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
Firm Size	-0.012***	(-6.46)	-0.011***	(-5.86)	-0.005***	(-8.32)	-0.003***	(-5.36)	-0.011***	(-5.86)	-0.012***	(-5.91)
Firm Age	-0.017***	(-3.95)	-0.018***	(-4.15)	-0.005***	(-3.36)	-0.003**	(-2.44)	-0.018***	(-4.17)	-0.018***	(-4.11)
Firm Growth	0.002	(0.33)	0.005	(0.74)	0.005*	(1.78)	0.003*	(1.79)	0.005	(0.74)	0.004	(0.66)
Leverage	0.128***	(11.08)	0.123***	(10.31)	0.012***	(3.65)	0.003	(1.29)	0.122***	(10.28)	0.123***	(10.33)
Constant	0.216***	(6.08)	0.214***	(6.18)	0.150***	(13.00)	0.103***	(11.82)	0.214***	(6.22)	0.214***	(6.19)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.142		0.130		0.086		0.073		0.129		0.130	
F-test	9.995		9.022		9.435		7.283		8.947		8.982	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

### ***5.5.3.2 The Impact of Ownership Concentration, by Types of Shareholder, and the Presence of Dominant Shareholders, by their Types, on Managers' Accounting Discretion***

Regarding the hypotheses  $H_{a3}$  to  $H_{a12}$ , this section investigates the impact of ownership concentration on managers' accounting discretion by the types of shareholders (Model 5.3) and the presence of dominant shareholders, by their types (Model 5.4). The results are shown in Panels A and B in Table 5.11, respectively.

#### ***5.5.3.2.1 Discretionary Accruals and Adjusted Discretionary Accruals***

Table 5.11, Panel A, shows that the coefficients of Family Own, Government Own, Foreign Company Own, Domestic Company Own, Bank Own and Non-Bank Financial Institution Own are not significantly related to discretionary accruals based on the Jones model (DA1). However, the coefficients of Government Own and Foreign Company Own are negatively related to unsigned discretionary accruals based on the modified Jones model (DA2) and all the adjusted-modified Jones models (DA2\_DR1, DA2\_DR2).

Although the results are significant for some but not all discretionary accruals estimations, they provide some evidence of an alignment of interests ( $H_{a5}$ ), suggesting that firms with government as the largest shareholders were likely to exercise less accounting discretion over accruals and implying that the government provided better monitoring. This evidence is consistent with the findings of other researchers including Ding et al. (2007) and Wang and Yung (2011) in China.

In addition, the negative effect of levels of foreign companies investors block ownership supports the alignment effect ( $H_{a7}$ ) and is consistent with other studies (for examples, see Aggarwal et al. 2005; Jeon and Ryoo, 2013). It suggests that when the largest shareholders are a foreign company, they may demand high quality earnings reports and be more likely to participate in corporate governance by, for example, choosing independent directors.

Regarding the presence of dominant shareholders, by their types, Panel B shows that only the coefficients of D\_Bank are negatively and significantly related to discretionary accruals, as measured by all models. The findings support the alignment effect ( $H_{a10}$ ) and suggest that the presence of Bank acting as the dominant shareholder was associated with a low magnitude of accounting discretion over accruals. In fact, banks often became the dominant shareholders after the corporate governance reforms, as some listed companies that had suffered in the financial crisis transferred share ownership from families to banks. Therefore, banks as owners may be motivated to be active in monitoring financial reporting.

#### **5.5.3.2.2 Discretionary Revenues**

Unlike the findings based on discretionary accruals, Table 5.11, Panel A, shows that the coefficients of Family Own are negatively and significantly related to absolute discretionary revenues at the 1% and 5% levels of significance for the annual and conditional revenues models (DR1, DR2), respectively. This evidence supports the alignment effect ( $H_{a3}$ ) and is consistent with other studies (for examples, see Bowen et al., 2008; Jiraporn and DaDalt, 2009; Wang, 2006) that found less conflict of interests in family firms, since it is common in most Thai listed companies that are family firms to have family members involved in management. Therefore, the strong attributes of family firms, such as their close relationships, love, trust and loyalty and concern for family reputation, appear to have influenced them to produce high reported earnings in order to, for example, retain their reputation and survive in the long term (Ali et al. 2007).

The coefficients of Domestic Company Own are also negatively related to absolute discretionary revenues at the 5% and 10% levels of significance for the annual and conditional revenues models, respectively. In addition, the coefficients of Non-Bank Financial Institutions Own are also negatively related to absolute discretionary revenues at the 5% level of significance for the annual revenues model (DR1). This evidence suggests that domestic companies may have provided the resources for better monitoring. The evidence also supports the alignment effect ( $H_{a11}$ ) and suggests that non-bank financial institutional shareholders played an active role in monitoring

managers. This is consistent with the findings of existing research from the US, such as Brickley et al. (1988) and Ferreira and Matos (2008), and from Australia, such as Koh (2007).

Panel B shows that the coefficient of D\_Family is negatively related to DR1 at the 10% level of significance. Hence the presence of dominant family shareholders is associated with a lower magnitude of discretionary revenues. This supports the notion of an alignment effect ( $H_{a4}$ ) and is consistent with the findings in Panel A, suggesting that dominant family shareholders had some influence over financial reporting, in terms of revenues from sales accounts, and used it to limit the opportunistic use of accounting discretion over revenues.

However, the coefficients of D\_Foreign\_Company are positively related to DR1 and DR2 at the 10% and 5% levels of significance. This evidence does not support the alignment effect ( $H_{a8}$ ) and suggests that the presence of dominant shareholders who are a foreign company was associated with higher magnitudes of discretionary revenues and that, with higher levels of control, they may have influenced managers to exercise (opportunistic) accounting discretion over revenues rather than accruals in order to, for example, increase sales in parent companies. Geographical distance may also play a part in limiting the ability of parent companies to monitor managers and provide them with opportunities to exercise accounting discretion in order to, for example, meet incentive targets (Boardman et al., 1997; Lin and Shiu, 2003; Wiwattanakantang, 1999). The evidence differs from that found by Wu et al. (2012) in China.



**Table 5.11: An Impact of Ownership Concentration, by Types of Shareholder, the Presence of Dominant Shareholders, by their Types, and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

**Panel A: An Impact of Ownership Concentration by Types of Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of ownership concentration, by types of shareholder, and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Model: 5.3:**  $AD_{i,t+1} = \beta_0 + \beta_1 \text{Family Own}_{it} + \beta_2 \text{Government Own}_{it} + \beta_3 \text{Foreign Own}_{it} + \beta_4 \text{Domestic Own}_{it} + \beta_5 \text{Bank}_{it} + \beta_6 \text{Non-Bank Financial Institution Own}_{it}$   
 $+ \beta_7 \text{Share Difference}_{it} + \beta_8 \text{CV}_{it} + \gamma_1 \text{Board Size}_{it} + \gamma_2 \text{Board Independence}_{it} + \gamma_3 \text{Board Experience}_{it} + \delta_1 \text{CEO Founder}_{it} + \delta_2 \text{CEO Descendant}_{it}$   
 $+ \delta_3 \text{CEO-Chair}_{it} + \delta_4 \text{CEO-Group}_{it} + \chi_1 \text{BIG4}_{it} + \chi_2 \text{Auditor Tenure}_{it} + \eta_1 \text{Firm Size}_{it} + \eta_2 \text{Firm Age}_{it} + \eta_3 \text{Firm Growth}_{it} + \eta_4 \text{Leverage}_{it}$   
 $+ \eta_5 \text{Industry dummy} + \eta_6 \text{Year dummy} + \varepsilon_{it}$

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
Family Own	0.003	(0.21)	-0.008	(-0.59)	-0.018***	(-3.60)	-0.010**	(-2.54)	-0.007	(-0.55)	-0.009	(-0.65)
Government Own	-0.054	(-1.61)	-0.059*	(-1.83)	0.009	(0.68)	0.002	(0.25)	-0.059*	(-1.84)	-0.061*	(-1.88)
Foreign company Own	-0.014	(-0.89)	-0.026*	(-1.68)	0.004	(0.70)	0.004	(0.71)	-0.026*	(-1.70)	-0.026*	(-1.67)
Domestic company Own	0.008	(0.33)	-0.006	(-0.25)	-0.020**	(-1.98)	-0.014*	(-1.76)	-0.004	(-0.17)	-0.004	(-0.18)
Bank Own	0.013	(0.15)	0.017	(0.19)	0.008	(0.23)	0.014	(0.48)	0.022	(0.25)	0.021	(0.24)
Non-Bank Fin. Insti. Own	-0.068	(-1.02)	-0.086	(-1.33)	-0.046**	(-2.15)	-0.014	(-0.88)	-0.087	(-1.36)	-0.093	(-1.44)
Share Difference	0.003	(0.37)	0.004	(0.54)	0.005	(1.58)	0.004*	(1.79)	0.005	(0.60)	0.005	(0.62)
CV	0.028***	(3.35)	0.024***	(2.85)	-0.002	(-0.72)	0.000	(-0.18)	0.024***	(2.86)	0.023***	(2.80)
Board Size	0.022**	(2.19)	0.020*	(1.94)	-0.011***	(-3.09)	-0.011***	(-4.10)	0.020*	(1.95)	0.020**	(1.96)
Board Independence	0.024	(1.39)	0.028*	(1.67)	-0.003	(-0.47)	-0.007	(-1.61)	0.028	(1.64)	0.028*	(1.65)
Board Experience	0.002	(0.25)	0.001	(0.10)	-0.003	(-0.88)	-0.002	(-0.78)	0.001	(0.12)	0.002	(0.24)

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**Table 5.11: An Impact of Ownership Concentration, by Types of Shareholder, the Presence of Dominant Shareholders, by their Types, and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel A: An Impact of Ownership Concentration by Types of Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration, by types of shareholder, and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
CEO Founder	-0.020***	(-3.73)	-0.020***	(-3.85)	-0.002	(-0.78)	-0.002	(-1.30)	-0.020***	(-3.76)	-0.020***	(-3.82)
CEO Descendant	-0.014**	(-2.23)	-0.014**	(-2.22)	-0.002	(-0.81)	0.000	(-0.24)	-0.014**	(-2.22)	-0.014**	(-2.28)
CEO-Chair	0.002	(0.26)	0.001	(0.18)	-0.001	(-0.55)	0.002	(0.81)	0.001	(0.15)	0.001	(0.19)
CEO-Group	0.001	(0.20)	0.003	(0.41)	0.002	(1.05)	0.001	(0.63)	0.002	(0.40)	0.003	(0.44)
BIG 4	-0.002	(-0.45)	0.001	(0.15)	-0.003**	(-2.06)	-0.002**	(-2.10)	0.001	(0.23)	0.000	(0.06)
Audit Partner												
Tenure	-0.009**	(-2.20)	-0.010**	(-2.38)	-0.003*	(-1.83)	-0.002	(-1.36)	-0.010**	(-2.40)	-0.010**	(-2.41)
Firm Size	-0.012***	(-6.12)	-0.011***	(-5.52)	-0.006***	(-8.99)	-0.003***	(-5.53)	-0.011***	(-5.51)	-0.011***	(-5.57)
Firm Age	-0.017***	(-3.98)	-0.018***	(-4.12)	-0.005***	(-3.74)	-0.003***	(-2.69)	-0.018***	(-4.14)	-0.018***	(-4.11)
Firm Growth	0.002	(0.33)	0.004	(0.71)	0.004*	(1.68)	0.003*	(1.68)	0.004	(0.72)	0.004	(0.64)
Leverage	0.127***	(10.96)	0.122***	(10.18)	0.013***	(4.14)	0.004	(1.61)	0.120***	(10.15)	0.122***	(10.22)
Constant	0.210***	(5.73)	0.212***	(5.89)	0.168***	(13.49)	0.112***	(11.67)	0.212***	(5.91)	0.213***	(5.91)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.141		0.131		0.091		0.075		0.129		0.130	
F-test	8.716		7.829		8.906		6.494		7.782		7.818	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

**Table 5.11: An Impact of Ownership Concentration, by Types of Shareholder, the Presence of Dominant Shareholders, by their Types, and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel B: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholders, and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

$$\begin{aligned} \text{Model 5.4: } AD_{i,t+1} = & \beta_0 + \beta_1 D\_Family_{it} + \beta_2 D\_Government_{it} + \beta_3 D\_Foreign_{it} + \beta_4 D\_Domestic_{it} + \beta_5 D\_Bank_{it} + \beta_6 D\_Non-Bank\ Financial\ Institution_{it} \\ & + \beta_7 Share\ Difference_{it} + \beta_8 CV_{it} + \gamma_1 Board\ Size_{it} + \gamma_2 Board\ Independence_{it} + \gamma_3 Board\ Experience_{it} + \delta_1 CEO\ Founder_{it} + \delta_2 CEO\ Descendant_{it} \\ & + \delta_3 CEO-Chair_{it} + \delta_4 CEO-Group_{it} + \chi_1 BIG4_{it} + \chi_2 Auditor\ Tenure_{it} + \eta_1 Firm\ Size_{it} + \eta_2 Firm\ Age_{it} + \eta_3 Firm\ Growth_{it} + \eta_4 Leverage_{it} \\ & + \eta_5 Industry\ dummy + \eta_6 Year\ dummy + \epsilon_{it} \end{aligned}$$

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	t	DA2	t	DR1	t	DR2	t	DA2_DR1	t	DA2_DR2	t
D_Family	0.004	(0.77)	0.005	(0.76)	-0.004*	(-1.67)	0.000	(-0.02)	0.005	(0.78)	0.004	(0.73)
D_Government	-0.019	(-1.33)	-0.018	(-1.23)	0.006	(1.35)	0.002	(0.59)	-0.018	(-1.24)	-0.019	(-1.31)
D_Foreign	-0.006	(-0.85)	-0.008	(-1.20)	0.005*	(1.95)	0.005**	(2.46)	-0.008	(-1.20)	-0.008	(-1.19)
D_Domestic	0.008	(0.64)	0.006	(0.50)	-0.005	(-0.95)	0.001	(0.16)	0.007	(0.51)	0.007	(0.54)
D_Bank	-0.050***	(-4.80)	-0.051***	(-4.85)	-0.004	(-0.46)	0.005	(0.63)	-0.051***	(-4.83)	-0.051***	(-4.81)
D_Non-Bank Fin. Insti.	-0.006	(-0.20)	-0.009	(-0.29)	0.014	(0.92)	0.012	(1.20)	-0.009	(-0.29)	-0.009	(-0.28)
Share Difference	0.002	(0.28)	0.001	(0.08)	0.001	(0.41)	0.000	(0.21)	0.001	(0.16)	0.001	(0.14)
CV	0.029***	(3.57)	0.027***	(3.23)	-0.003	(-1.03)	0.000	(-0.16)	0.027***	(3.24)	0.026***	(3.17)
Board Size	0.023**	(2.25)	0.021**	(2.02)	-0.010***	(-2.94)	-0.010***	(-3.98)	0.021**	(2.03)	0.021**	(2.05)
Board Independence	0.025	(1.44)	0.030*	(1.74)	-0.002	(-0.38)	-0.007	(-1.59)	0.029*	(1.71)	0.029*	(1.73)
Board Experience	0.003	(0.36)	0.001	(0.16)	-0.004	(-1.29)	-0.002	(-0.96)	0.002	(0.20)	0.003	(0.30)

(This table is continued on the next page)

**Table 5.11: An Impact of Ownership Concentration, by Types of Shareholder, the Presence of Dominant Shareholders, by their Types, and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

**Panel B: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholders, and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) from 1994 to 2007. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2 DR1	<i>t</i>	DA2 DR2	<i>t</i>
CEO Founder	-0.019***	(-3.67)	-0.019***	(-3.71)	-0.001	(-0.59)	-0.002	(-1.26)	-0.019***	(-3.62)	-0.019***	(-3.68)
CEO Descendant	-0.015**	(-2.35)	-0.015**	(-2.37)	-0.002	(-0.99)	-0.001	(-0.37)	-0.015**	(-2.37)	-0.015**	(-2.44)
CEO-Chair	0.001	(0.11)	-0.0002	(-0.04)	-0.001	(-0.46)	0.002	(0.90)	-0.0003	(-0.06)	-0.0002	(-0.03)
CEO-Group	0.002	(0.33)	0.003	(0.45)	0.002	(1.01)	0.001	(0.48)	0.003	(0.45)	0.003	(0.49)
BIG 4	-0.001	(-0.35)	0.001	(0.20)	-0.003**	(-2.11)	-0.003**	(-2.26)	0.001	(0.28)	0.001	(0.12)
Audit Partner Tenure	-0.008**	(-2.00)	-0.009**	(-2.13)	-0.003*	(-1.66)	-0.002	(-1.27)	-0.009**	(-2.14)	-0.009**	(-2.14)
Firm Size	-0.012***	(-6.18)	-0.011***	(-5.61)	-0.006***	(-8.64)	-0.003***	(-5.38)	-0.011***	(-5.60)	-0.011***	(-5.65)
Firm Age	-0.016***	(-3.77)	-0.017***	(-3.89)	-0.005***	(-3.75)	-0.003***	(-2.81)	-0.017***	(-3.91)	-0.017***	(-3.87)
Firm Growth	0.002	(0.37)	0.005	(0.76)	0.005*	(1.82)	0.003*	(1.84)	0.005	(0.76)	0.004	(0.68)
Leverage	0.126***	(11.01)	0.122***	(10.23)	0.013***	(4.02)	0.004	(1.57)	0.120***	(10.20)	0.122***	(10.26)
Constant	0.201***	(5.48)	0.197***	(5.53)	0.159***	(13.36)	0.107***	(11.81)	0.198***	(5.56)	0.197***	(5.52)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.143		0.132		0.089		0.074		0.130		0.131	
F-test	9.458		8.713		8.918		6.632		8.647		8.648	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

### ***5.5.3.3 The Impact of Managerial Ownership on Managers' Accounting Discretion***

Regarding the hypothesis  $H_{a13}$ , this section investigates the impact of managerial ownership on managers' accounting discretion. The results of the OLS regressions (Model 5.5) on different definitions of managerial ownership (all director ownership and executive director ownership) are shown in Panels A and B in Table 5.12.

In respect to discretionary accruals, none of the coefficients of Manager Own are significantly related to discretionary accruals or adjusted discretionary accruals for all models, as shown in Panels A and B. The results are also consistent among all definitions of managerial ownership.

In contrast to the findings on discretionary revenues, the coefficients of Manager Own, defined as "all directors" ownership, are negatively related to discretionary revenues, measured by DR1, at the 5% level of significance. This suggests that the magnitude of discretionary revenues decreases as levels of managerial ownership increase. The results were unchanged when managerial ownership was included only ownership of executive directors as shown in Panel B in Table 5.12.

The evidence supports the alignment hypothesis ( $H_{a13}$ ), which suggests that ownership does motivate managers to align their interests with those of other shareholders (for example, see Jensen and Meckling, 1976) and, at least, limits their use of opportunistic accounting discretion over revenues. This also implies that ownership also motivate non-executive directors to supervise managers in turn limiting a use of accounting discretions.

**Table 5.12: An Impact of Managerial Ownership on Managers' Accounting Discretion – Full Sample****Panel A: An Impact of Ownership of all Directors on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of ownership of all directors on managers' accounting discretion (Model 5.5) from 1994 to 2007. All variables definitions are presented in Table 5.5. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

$$\text{Model 5.5: } AD_{i,t+1} = \beta_0 + \beta_1 \text{Manager Own}_{it} + \beta_2 \text{Share Difference}_{it} + \beta_3 \text{CV}_{it} + \gamma_1 \text{Board Size}_{it} + \gamma_2 \text{Board Independence}_{it} + \gamma_3 \text{Board Experience}_{it} + \delta_1 \text{CEO Founder}_{it} \\ + \delta_2 \text{CEO Descendant}_{it} + \delta_3 \text{CEO-Chair}_{it} + \delta_4 \text{CEO-Group}_{it} + \chi_1 \text{BIG 4}_{it} + \chi_2 \text{Auditor Tenure}_{it} + \eta_1 \text{Firm Size}_{it} + \eta_2 \text{Firm Age}_{it} + \eta_3 \text{Firm Growth}_{it} \\ + \eta_4 \text{Leverage}_{it} + \eta_5 \text{Industry dummy} + \eta_6 \text{Year dummy} + \varepsilon_{it}$$

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	t	DA2	t	DR1	t	DR2	t	DA2_DR1	t	DA2_DR2	t
Manager Own	0.0002	(0.02)	0.002	(0.17)	-0.008**	(-2.40)	-0.003	(-1.24)	0.002	(0.16)	0.000	(0.03)
Share Difference	0.006	(0.81)	0.004	(0.56)	0.0002	(0.08)	0.001	(0.54)	0.005	(0.66)	0.005	(0.66)
CV	0.024***	(3.06)	0.021***	(2.67)	-0.00001	(-0.01)	0.001	(0.42)	0.021***	(2.67)	0.021***	(2.61)
Board Size	0.020**	(2.02)	0.018*	(1.80)	-0.010***	(-2.85)	-0.010***	(-3.94)	0.018*	(1.81)	0.019*	(1.83)
Board Independence	0.022	(1.30)	0.027	(1.59)	-0.002	(-0.31)	-0.007	(-1.49)	0.026	(1.56)	0.027	(1.57)
Board Experience	0.002	(0.23)	0.001	(0.07)	-0.004	(-1.28)	-0.003	(-1.04)	0.001	(0.11)	0.002	(0.21)
CEO Founder	-0.018***	(-3.39)	-0.018***	(-3.45)	-0.001	(-0.66)	-0.002	(-1.35)	-0.018***	(-3.35)	-0.018***	(-3.39)
CEO Descendant	-0.013**	(-2.12)	-0.014**	(-2.16)	-0.002	(-1.01)	-0.001	(-0.38)	-0.014**	(-2.16)	-0.014**	(-2.21)
CEO-Chair	0.002	(0.32)	0.001	(0.21)	-0.002	(-0.64)	0.001	(0.72)	0.001	(0.19)	0.001	(0.22)
CEO-Group	0.003	(0.46)	0.004	(0.59)	0.002	(0.82)	0.001	(0.37)	0.004	(0.60)	0.004	(0.65)
BIG 4	-0.002	(-0.55)	-0.0001	(-0.03)	-0.003*	(-1.77)	-0.002*	(-1.85)	0.000	(0.05)	0.000	(-0.12)
Audit Partner Tenure	-0.009**	(-2.20)	-0.009**	(-2.31)	-0.003*	(-1.70)	-0.002	(-1.28)	-0.009**	(-2.33)	-0.009**	(-2.33)

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**Table 5.12: An Impact of Managerial Ownership on Managers' Accounting Discretion – Full Sample (Cont')****Panel A: An Impact of Ownership of all Directors on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership of all directors on managers' accounting discretion (Model 5.5) from 1994 to 2007. All variables definitions are presented in Table 5.5. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
Firm Size	-0.012***	(-6.32)	-0.011***	(-5.76)	-0.006***	(-8.58)	-0.003***	(-5.41)	-0.011***	(-5.76)	-0.012***	(-5.83)
Firm Age	-0.017***	(-3.90)	-0.018***	(-4.08)	-0.005***	(-3.53)	-0.003**	(-2.53)	-0.018***	(-4.10)	-0.018***	(-4.06)
Firm Growth	0.002	(0.33)	0.005	(0.75)	0.005*	(1.76)	0.003*	(1.73)	0.005	(0.75)	0.004	(0.66)
Leverage	0.128***	(11.09)	0.123***	(10.32)	0.012***	(3.73)	0.003	(1.33)	0.122***	(10.29)	0.123***	(10.35)
Constant	0.216***	(5.74)	0.212***	(5.84)	0.156***	(13.23)	0.106***	(11.70)	0.213***	(5.88)	0.214***	(5.87)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.142		0.130		0.087		0.073		0.129		0.130	
F-test	10.007		9.034		9.602		7.225		8.959		9.001	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

**Table 5.12: An Impact of Managerial Ownership on Managers' Accounting Discretion – Full Sample (Cont')****Panel B: An Impact of Ownership of Executive Directors on Managers' Accounting Discretion – Full Sample**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (executive directors) on managers' accounting discretion (Model 5.5) from 1994 to 2007. All variables definitions are presented in Table 5.5. t-statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	<i>t</i>	DA2	<i>t</i>	DR1	<i>t</i>	DR2	<i>t</i>	DA2_DR1	<i>t</i>	DA2_DR2	<i>t</i>
Manager Own	0.007	(0.53)	0.011	(0.74)	-0.008*	(-1.82)	0.0002	(0.04)	0.011	(0.74)	0.010	(0.73)
Share Difference	0.006	(0.78)	0.004	(0.57)	-0.001	(-0.55)	0.0003	(0.17)	0.005	(0.66)	0.004	(0.63)
CV	0.024***	(3.02)	0.021***	(2.61)	0.0004	(0.15)	0.001	(0.44)	0.021***	(2.61)	0.020**	(2.55)
Board Size	0.020**	(2.01)	0.018*	(1.77)	-0.009***	(-2.68)	-0.010***	(-3.89)	0.018*	(1.78)	0.018*	(1.80)
Board Independence	0.022	(1.30)	0.027	(1.58)	-0.001	(-0.18)	-0.006	(-1.43)	0.026	(1.55)	0.027	(1.57)
Board Experience	0.002	(0.26)	0.001	(0.11)	-0.004	(-1.41)	-0.003	(-1.08)	0.001	(0.15)	0.002	(0.24)
CEO Founder	-0.019***	(-3.47)	-0.019***	(-3.56)	-0.002	(-0.77)	-0.003	(-1.60)	-0.018***	(-3.46)	-0.019***	(-3.53)
CEO Descendant	-0.014**	(-2.16)	-0.014**	(-2.21)	-0.002	(-1.05)	-0.001	(-0.54)	-0.014**	(-2.21)	-0.015**	(-2.28)
CEO-Chair	0.002	(0.36)	0.002	(0.27)	-0.002	(-0.86)	0.001	(0.65)	0.001	(0.25)	0.002	(0.27)
CEO-Group	0.003	(0.48)	0.004	(0.65)	0.001	(0.47)	0.0004	(0.22)	0.004	(0.66)	0.004	(0.69)
BIG 4	-0.002	(-0.53)	-0.0001	(-0.03)	-0.002	(-1.50)	-0.002*	(-1.71)	0.0002	(0.05)	-0.0004	(-0.10)
Audit Partner												
Tenure	-0.009**	(-2.18)	-0.009**	(-2.29)	-0.003*	(-1.75)	-0.002	(-1.27)	-0.009**	(-2.31)	-0.009**	(-2.31)

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**Table 5.12: An Impact of Managerial Ownership on Managers' Accounting Discretion – Full Sample (Cont')****Panel B: An Impact of Ownership of Executive Directors on Managers' Accounting Discretion – Full Sample (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (executive directors) on managers' accounting discretion (Model 5.5) from 1994 to 2007. All variables definitions are presented in Table 5.5.  $t$ -statistics for two-tails test based on robust standards errors are reported in parentheses.  $AD_{i,t+1}$  include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2), discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2), adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Discretionary Accruals				Discretionary Revenues				Adjusted Discretionary Accruals			
	DA1	$t$	DA2	$t$	DR1	$t$	DR2	$t$	DA2_DR1	$t$	DA2_DR2	$t$
Firm Size	-0.012***	(-6.44)	-0.011***	(-5.86)	-0.005***	(-8.44)	-0.003***	(-5.33)	-0.011***	(-5.86)	-0.012***	(-5.91)
Firm Age	-0.017***	(-3.90)	-0.018***	(-4.08)	-0.005***	(-3.41)	-0.003**	(-2.42)	-0.018***	(-4.10)	-0.017***	(-4.05)
Firm Growth	0.002	(0.34)	0.005	(0.75)	0.005*	(1.79)	0.003*	(1.76)	0.005	(0.75)	0.004	(0.67)
Leverage	0.128***	(11.06)	0.123***	(10.29)	0.012***	(3.72)	0.003	(1.28)	0.122***	(10.26)	0.123***	(10.32)
Constant	0.216***	(6.09)	0.214***	(6.19)	0.150***	(12.99)	0.103***	(11.82)	0.215***	(6.23)	0.214***	(6.20)
Industry Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Year Dummy	Yes		Yes		Yes		Yes		Yes		Yes	
No. of Obs.	3,229		3,151		3,737		3,735		3,151		3,151	
Adj. R-squared	0.142		0.131		0.086		0.072		0.129		0.130	
F-test	10.009		9.047		9.433		7.164		8.973		9.010	
p_value	0.000		0.000		0.000		0.000		0.000		0.000	

#### ***5.5.3.4 The Impact of Other Corporate Governance Mechanisms and Other Economic Determinants on Managers' Accounting Discretion***

Regarding hypotheses  $H_{a14}$  to  $H_{a22}$ , this section investigates the impact of board structure, CEO characteristics and auditor reputation and expertise on managers' accounting discretion. The results of the OLS regressions (Model 5.1 to 5.5) are shown in Tables 5.10 to 5.12.

##### ***5.5.3.4.1 Discretionary Accruals and Adjusted Discretionary Accruals***

The results shown in Tables 5.10 to 5.12 are consistent among all models (5.1 to 5.5). Therefore, this analysis is focused on the results in Panel A, Table 5.11.

Regarding other ownership control mechanisms, none of coefficients of Share Difference are significant to any discretionary accruals, suggesting that the second largest shareholders might not have a significant role in monitoring the largest shareholders. This is also suggested by the fact that, on average, the largest shareholders owned substantially more shares than the second largest shareholders did, which would have reduced the ability of the latter to monitor the former.

Nevertheless, the coefficients of CV are positively related to absolute discretionary accruals at the 1% level of significance for all discretionary accruals measurements, possibly implying that, where gap of cash flow rights and voting rights were large, listed firms were less likely to use accounting discretion. The evidence may also imply that pyramidal and cross-shareholding structures were not used for opportunistic purposes, at least in terms of accounting discretions. In fact, cross-shareholding, which further separates cash flow rights from control rights, appears to have been used within business groups in Thailand, and this may be a result of "positive group synergies" in business groups controlled by families (Bennedsen and Nielsen, 2010: 2220). The evidence is partly in line with the findings of Bennedsen and Nielsen (2010), who report that pyramidal structures were less associated with discounted firm values than dual class shares were. They also report a positive but insignificant impact of cross-shareholding

on firm value. However, this study's evidence contradicts the findings of other studies (for example, see Fan and Wong, 2002), which suggest that a larger separation of cash flow rights from control rights leads to low earnings quality.

Regarding board structure, the coefficients of Board size are positively and significantly related to absolute discretionary accruals for all discretionary accruals measurements, suggesting that, on average, absolute discretionary accruals increase as board size increases, if all other variables are constant. Consistent with the hypothesis  $H_{a14}$ , the evidence implies an inefficiency of larger boards in respect to detecting the use of accounting discretion over accruals. This finding is consistent with results from previous studies including Ghosh et al. (2010), in the US, and Abdul Rahman et al. (2006), in Malaysia.

In addition, a positive relationship is found with board independence, at the 10% level of significance, but the relationship is significant only for absolute discretionary accruals estimated by DA2 and DA2\_DR2. In addition, none of the coefficients of board experience show significant relationships. This evidence contradicts the expectation ( $H_{a15}$ ) and the findings of most other research, such as that from the US, the UK and Hong Kong, which suggests that board independence may restrict accounting discretion (for examples, see Davidson et al., 2005; Jaggi et al., 2009; Klein, 2002; Peasnell et al., 2000), and suggests that independent directors in the sampled firms may not have been completely independent. Since many Thai businesses rely heavily on business networks, it may have been difficult for shareholders to identify and appoint truly independent directors. In addition, the lack of board independence may partly explain why, on average, Thai listed firms with larger boards tended to have higher discretionary accruals.

Regarding CEO characteristics, the coefficients of CEO founder and CEO descendants are negatively and significantly related to all absolute discretionary accruals measurements. These results suggest that CEOs who are founders and/or their descendants help to limit the use of accounting discretion over accruals. These results

also provide evidence that supports the expectation of an alignment of interests ( $H_{a19}$  and  $H_{a20}$ ) between firms and CEOs or their descendants (Jiraporn and DaDalt, 2007). However, they contradict the findings of Dechow et al. (1996), who report that firms with CEO founders had a greater tendency to manage earnings, and this discrepancy may be caused by the difference in the institutional environments in which the studies were based.

Regarding external auditors, the coefficients of auditor-partner tenure are negatively related to all absolute discretionary accruals at the 1% level of significance, suggesting that the longer tenure of an audit partner improves their knowledge of their clients' business and increases their ability to detect and identify management discretion for specific purposes (Myers et al., 2003). These findings contradict the expectation ( $H_{a22}$ ) but are consistent with other research that shows audit experience as negatively associated with the use of accounting discretion, such as Myers et al. (2003) and Johnson et al. (2002), in the US. The finding also agrees with Chen and Huang (2005), who report the lower use of discretionary accruals when auditor tenure exceeded five years in Taiwan. Since Thai listed firms have been required to rotate their auditor partner every five years since 2006, this regulation might reduce the benefits that firms can gain from auditor's experience, in terms of mitigating accounting discretion. However, no significant relationship is found between BIG4 and all absolute discretionary accruals.

Regarding other economic determinants, larger firm size or older firms are significantly associated with lower absolute discretionary accruals for all discretionary accruals measurements, suggesting that larger firms might have been induced by market participants to provide better internal control systems (Kim et al., 2003; Core et al., 1999; Himmelberg et al., 1999).

However, significant positive associations were found between leverage and absolute discretionary accruals, suggesting that high leverage may motivate managers and dominant shareholders to manage earnings for some purposes such as to avoid the violation of debt covenants (for examples, see DeFond and Jambalvo, 1994; Bowen et

al. 2008; Ghosh and Moon, 2010; Kim et al., 2010; Watts and Zimmerman, 1990). These findings are consistent with those of other studies such as DeFond and Jambalvo (1994) and Ghosh and Moon (2010) in the US.

#### **5.5.3.4.2 Discretionary Revenues**

Although board size has been shown to have a positive impact on a discretionary accruals (see Section 5.5.3.4.1), Table 5.11, Panel A, shows that the coefficients of board size are negatively related to absolute discretionary revenues, at the 1% level of significance, in all models. This is consistent with the evidence from existing research from the US (for examples, see Beasley, 1996; Xie et al., 2003) and from Malaysia (Hashim et al., 2009), which suggests that larger boards are likely to limit managers' opportunistic accounting discretion. Since revenue is a large account in income statements, it is normally spotted by regulators and the board may therefore pay more attention to it than to accruals in general. A less complexity of revenues accounts may also increases ability of the board to detect accounting discretion over revenues.

Regarding auditor reputation and expertise, the coefficients of BIG4 are negatively related to absolute discretionary revenues at the 5% level of significance in the annual and conditional revenue models. The evidence supports the expectation ( $H_{a21}$ ) and suggests that firms that are audited by BIG4 audit firms were less likely to use accounting discretion over revenues. The coefficients of Audit Partner Tenure are also significantly and negatively related to the magnitude of discretionary revenues, as measured in each of the revenues-based models. The evidence does not support the expectation ( $H_{a22}$ ) but is consistent with the findings from discretionary accruals reported in Section 5.5.3.4.1.

The significant negative relationship between BIG4 and absolute discretionary revenues may imply that auditors may have more concern on revenues components of accruals rather than other accruals. For example, revenues and accounts receivables accounts are key accounts and normally have significant amount. Regarding other economic

determinants, the results are consistent with those from discretionary accruals discussed in Section 5.5.3.4.1.

### ***5.5.3.5 The Corporate Governance Reforms***

This section investigates whether there has been any improvement in the impact of ownership structure and other corporate governance mechanisms on managers' accounting discretion in Thailand. The pooled cross-sectional data were partitioned into pre-reform period (1994 to 1998) and post-reform (2000 to 2007) period and the OLS regressions of Models 5.1 to 5.5 were re-estimated for each sub-period.

In respect to the hypotheses,  $H_{a23}$  to  $H_{a43}$ , the tests for equality of coefficients in pre-reform and post-reform periods are performed using the dummy variables approach discussed in Section 5.3.2.1. Only the incremental effects and the Wald test (F-statistic) from Model 5.6 to 5.10 are reported.

#### ***5.5.3.5.1 The Impact of Ownership Concentration and the Presence of Dominant Shareholders on Managers' Accounting Discretion***

Table 5.13, Panels A.1 to A.3 and B.1 to B.3, shows the results of the regressions of ownership concentration (Model 5.1) and the presence of dominant shareholders (Model 5.2) on discretionary accruals and discretionary revenues before and after the corporate governance reforms, respectively.

Regarding discretionary accruals, the evidence from Panels A.1 and A.3 suggests that levels of ownership concentration were significantly and negatively associated with discretionary accruals, as measured by all models, only before the reforms. However, the effects largely disappear after the reforms. Additionally, the equality test ( $H_{a23}$ ) shows that there are significantly positive incremental effects of ownership concentration on discretionary accruals, as measured by all models in the post-reform period. The Wald test also confirms that the impacts of ownership concentration on the discretionary accruals in the pre-reform and the post-reform periods are significantly different.

Regarding discretionary revenues, the evidence from Panel A.2 suggests that levels of ownership concentration did not have any significant impact on discretionary revenues before the reforms but did have significant negative associations with discretionary revenues (DR1) after the reforms. Nevertheless, the equality test ( $H_{a23}$ ) reveals that the incremental effects of ownership concentration on discretionary revenues, as measured by all models in the post-reform period are negative but not significant. The Wald test also confirms that the impacts of ownership concentration on the discretionary revenues in the pre-reform and the post-reform periods are not significantly different.

The evidence from Panels B.1 to B.3 shows no significant impact of the presence of dominant shareholders on discretionary accruals and revenues for all measuring models both before and after the reforms.

Overall, the evidence from this section suggests that the motivation of blockholders to monitor firms' accounting methods and policies is likely to have been strong and to have limited accounting discretion over accruals, but only before the reforms. As suggested by the existing literature (for examples, see Denis and McConnell, 2003; La Porta et al., 1998, 1999, 2000), weak legal protection, including weak corporate governance, is one reason for ownership concentration; shareholders are likely to own substantial proportions of shares because they cannot rely on the system to protect their ownership rights. Since corporate governance and investor protection before the reforms were claimed to be weak (World Bank, 1998), it is no surprise that large shareholders played an important role in firm policies and operations prior to the reforms.

In addition, the gradually adoption of the international financial reporting standards (IFRS) after the reform may reduce the role of large shareholders on influencing the financial reporting, especially in accruals accounts. Nevertheless, the evidence provides some clue that levels of ownership did motivate blockholders to limit accounting discretion over revenues rather than accruals after the reforms, possibly because sales accounts are more obvious to regulators and the public.

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms**

**Panel A.1: An Impact of *Ownership Concentration* and Other Corporate Governance Mechanisms on *Discretionary Accruals* – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.1									
	DA1				Equality Test (Model 5.6)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Concentrated Own	-0.075**	(-2.09)	0.007	(0.41)	0.082**	4.32**	-0.091**	(-2.46)	0.004	(0.25)
Share Difference	0.047**	(2.06)	0.002	(0.19)	-0.045*	3.23*	0.049**	(2.10)	0.004	(0.40)
CV	0.026	(1.48)	0.020**	(2.20)	-0.006	0.09	0.015	(0.83)	0.019**	(2.05)
Board Size	0.036**	(2.21)	0.031**	(2.48)	-0.005	0.06	0.026	(1.61)	0.030**	(2.38)
Board										
Independence	0.012	(0.22)	0.028	(1.56)	0.016	0.08	0.021	(0.39)	0.029	(1.64)
Board Experience	-0.006	(-0.33)	0.008	(0.74)	0.014	0.43	-0.004	(-0.24)	0.007	(0.64)
CEO Founder	-0.010	(-0.66)	-0.021***	(-3.87)	-0.011	0.57	-0.009	(-0.66)	-0.022***	(-4.06)
CEO Descendant	-0.004	(-0.22)	-0.016**	(-2.43)	-0.012	0.46	-0.008	(-0.45)	-0.016**	(-2.39)
CEO-Chair	-0.017	(-1.03)	0.008	(1.27)	0.025	2.05	-0.015	(-0.97)	0.006	(0.99)
CEO-Group	0.012	(0.82)	0.003	(0.51)	-0.009	0.29	0.017	(1.12)	0.003	(0.40)
BIG 4	0.003	(0.36)	-0.004	(-0.82)	-0.007	0.49	0.010	(1.04)	-0.003	(-0.69)
Audit Partner										
Tenure	-0.011	(-1.24)	-0.008*	(-1.94)	0.003	0.11	-0.015	(-1.64)	-0.008*	(-1.80)
									0.007	0.59

(This table is continued on the next page)



**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.1: An Impact of Ownership Concentration and Other Corporate Governance Mechanisms on Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.1											
	DA1				Equality Test (Model 5.6)		DA2				Equality Test (Model 5.6)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Firm Size	-0.002	(-0.47)	-0.016***	(-7.15)	-0.014***	9.64***	-0.001	(-0.21)	-0.015***	(-6.60)	-0.014***	9.06***
Firm Age	-0.021**	(-2.56)	-0.019***	(-3.79)	0.002	0.06	-0.023***	(-2.68)	-0.020***	(-4.00)	0.003	0.10
Firm Growth	-0.008	(-0.82)	0.005	(0.76)	0.013	1.24	-0.014	(-1.20)	0.010	(1.30)	0.024*	2.94*
Leverage	0.114***	(4.52)	0.109***	(7.80)	-0.005	0.03	0.102***	(3.82)	0.107***	(7.54)	0.005	0.03
Constant	0.043	(0.66)	0.231***	(4.98)			0.073	(1.14)	0.223***	(4.89)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	801		2,190				774		2,148			
Adj. R-squared	0.098		0.108				0.081		0.104			
F-test	3.174		7.089				2.648		6.624			
p_value	0.000		0.000				0.000		0.000			

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.2: An Impact of *Ownership Concentration* and Other Corporate Governance Mechanisms on *Discretionary Revenues* – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.1									
	DR1				Equality Test (Model 5.6)		DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Concentrated Own	-0.006	(-0.55)	-0.013*	(-1.89)	-0.007	0.25	0.0001	(0.02)	-0.005	(-0.97)
Share Difference	0.006	(0.95)	0.001	(0.31)	-0.005	0.39	0.007	(1.42)	-0.0005	(-0.13)
CV	0.004	(0.84)	0.000	(0.03)	-0.004	0.43	0.004	(0.95)	0.001	(0.25)
Board Size	-0.014***	(-2.81)	-0.001	(-0.12)	0.013*	3.47*	-0.012***	(-2.93)	-0.006*	(-1.65)
Board Independence	0.000	(-0.02)	0.010	(1.49)	0.010	0.39	-0.005	(-0.43)	0.000	(-0.02)
Board Experience	0.001	(0.14)	-0.009**	(-2.15)	-0.010	2.06	0.004	(0.96)	-0.006**	(-2.03)
CEO Founder	0.000	(-0.10)	-0.003	(-1.38)	-0.003	0.42	0.003	(0.85)	-0.004**	(-1.98)
CEO Descendant	-0.003	(-0.61)	-0.002	(-0.76)	0.001	0.02	-0.001	(-0.26)	-0.0004	(-0.19)
CEO-Chair	-0.002	(-0.46)	-0.002	(-0.82)	0.000	0.00	-0.001	(-0.28)	0.001	(0.25)
CEO-Group	0.002	(0.39)	0.001	(0.34)	-0.001	0.02	0.001	(0.15)	-0.00001	(-0.00)
BIG 4	-0.005*	(-1.81)	0.000	(-0.02)	0.005	2.14	-0.003*	(-1.67)	-0.001	(-0.64)
Audit Partner										
Tenure	-0.007***	(-2.76)	-0.001	(-0.35)	0.006**	4.36**	-0.004*	(-1.84)	-0.001	(-0.43)
									0.003	1.70

(This table is continued on the next page)

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.2: An Impact of *Ownership Concentration* and Other Corporate Governance Mechanisms on *Discretionary Revenues* – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.1									
	DR1				Equality Test (Model 5.6)		DR2			
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>
Firm Size	-0.005***	(-4.24)	-0.006***	(-6.59)	-0.001	0.13	-0.003***	(-2.72)	-0.003***	(-4.59)
Firm Age	-0.006***	(-2.69)	-0.001	(-0.56)	0.005*	3.07*	-0.004**	(-2.46)	0.000	(0.33)
Firm Growth	0.007	(1.36)	0.006*	(1.92)	-0.001	0.03	0.005	(1.27)	0.004**	(2.06)
Leverage	0.014**	(2.22)	0.012***	(3.16)	-0.002	0.05	0.001	(0.27)	0.005*	(1.83)
Constant	0.157***	(8.19)	0.116***	(7.11)			0.109***	(7.26)	0.086***	(6.92)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	1,344		2,155				1,343		2,155	
Adj. R-squared	0.069		0.080				0.048		0.062	
F-test	6.235		7.148				4.148		4.685	
p_value	0.000		0.000				0.000		0.000	

**Panel A.3: An Impact of *Ownership Concentration* and Other Corporate Governance Mechanisms on *Adjusted Discretionary Accruals* – before and after the Corporate Governance Reforms**

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.3: An Impact of *Ownership Concentration* and Other Corporate Governance Mechanisms on *Adjusted Discretionary Accruals* – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration and other corporate governance mechanisms on managers' accounting discretion (Model 5.1) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.1									
	DA2_DR1				Equality Test (Model 5.6)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
BIG 4	0.011	(1.15)	-0.003	(-0.62)	-0.014	1.72	0.009	(0.99)	-0.003	(-0.68)
Audit Partner										
Tenure	-0.015*	(-1.66)	-0.007*	(-1.78)	0.008	0.62	-0.014	(-1.50)	-0.008*	(-1.93)
Firm Size	0.000	(-0.10)	-0.015***	(-6.60)	-0.015***	9.76***	-0.001	(-0.22)	-0.015***	(-6.60)
Firm Age	-0.023***	(-2.72)	-0.020***	(-3.96)	0.003	0.13	-0.023***	(-2.64)	-0.020***	(-3.96)
Firm Growth	-0.013	(-1.13)	0.010	(1.29)	0.023*	2.74*	-0.013	(-1.16)	0.009	(1.25)
Leverage	0.096***	(3.75)	0.107***	(7.55)	0.011	0.14	0.102***	(3.84)	0.108***	(7.58)
Constant	0.066	(1.03)	0.226***	(4.98)			0.073	(1.13)	0.221***	(4.87)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	774		2,148				774		2,148	
Adj. R-squared	0.080		0.104				0.082		0.104	
F-test	2.619		6.600				2.639		6.637	
p_value	0.001		0.000				0.000		0.000	

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.1: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DA1				Equality Test (Model 5.7)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
D_Dominant	0.007	(0.56)	-0.001	(-0.21)	-0.008	0.36	0.006	(0.47)	-0.001	(-0.20)
Share Difference	0.005	(0.30)	0.006	(0.73)	0.001	0.00	0.001	(0.04)	0.007	(0.83)
CV	0.032*	(1.82)	0.020**	(2.15)	-0.012	0.38	0.023	(1.30)	0.019**	(2.01)
Board Size	0.039**	(2.43)	0.031**	(2.47)	-0.008	0.17	0.030*	(1.85)	0.030**	(2.37)
Board Independence	0.017	(0.32)	0.028	(1.59)	0.011	0.05	0.026	(0.49)	0.030*	(1.66)
Board Experience	-0.010	(-0.53)	0.008	(0.74)	0.018	0.70	-0.009	(-0.48)	0.007	(0.64)
CEO Founder	-0.010	(-0.65)	-0.022***	(-3.94)	-0.012	0.60	-0.009	(-0.61)	-0.022***	(-4.13)
CEO Descendant	-0.002	(-0.14)	-0.016**	(-2.41)	-0.014	0.54	-0.005	(-0.31)	-0.016**	(-2.38)
CEO-Chair	-0.016	(-0.97)	0.008	(1.27)	0.024	1.89	-0.015	(-0.93)	0.006	(0.99)
CEO-Group	0.009	(0.62)	0.003	(0.53)	-0.006	0.12	0.013	(0.85)	0.003	(0.41)
BIG 4	0.001	(0.13)	-0.004	(-0.82)	-0.005	0.24	0.007	(0.72)	-0.003	(-0.68)
Audit Partner Tenure	-0.011	(-1.23)	-0.008*	(-1.95)	0.00	0.10	-0.015	(-1.56)	-0.008*	(-1.81)

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**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.1: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DA1				Equality Test (Model 5.7)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Firm Size	-0.002	(-0.47)	-0.016***	(-7.17)	-0.014***	9.64***	-0.001	(-0.23)	-0.015***	(-6.59)
Firm Age	-0.021**	(-2.50)	-0.019***	(-3.79)	0.002	0.04	-0.022**	(-2.58)	-0.020***	(-4.00)
Firm Growth	-0.008	(-0.76)	0.005	(0.74)	0.013	1.10	-0.013	(-1.13)	0.009	(1.28)
Leverage	0.112***	(4.46)	0.109***	(7.81)	-0.003	0.02	0.100***	(3.76)	0.107***	(7.55)
Constant	0.021	(0.33)	0.233***	(5.09)			0.048	(0.74)	0.224***	(4.98)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	801		2,190				774		2,148	
Adj. R-squared	0.094		0.108				0.074		0.104	
F-test	2.973		7.100				2.292		6.623	
p_value	0.000		0.000				0.003		0.000	

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.2: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Discretionary Revenues – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DR1				Equality Test (Model 5.7)		DR2			
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>
D_Dominant	-0.003	(-0.72)	-0.001	(-0.40)	0.002	0.13	0.003	(0.98)	0.001	(0.32)
Share Difference	0.006	(1.14)	-0.004	(-1.00)	-0.010	2.30	0.005	(1.25)	-0.003	(-1.13)
CV	0.004	(0.82)	0.001	(0.22)	-0.003	0.29	0.004	(1.01)	0.001	(0.38)
Board Size	-0.013***	(-2.76)	0.000	(-0.06)	0.013*	3.50*	-0.012***	(-2.97)	-0.006*	(-1.66)
Board Independence	0.001	(0.04)	0.010	(1.39)	0.009	0.28	-0.005	(-0.50)	-0.001	(-0.11)
Board Experience	0.000	(0.08)	-0.009**	(-2.14)	-0.009	1.86	0.004	(0.97)	-0.006**	(-2.04)
CEO Founder	0.000	(-0.04)	-0.003	(-1.22)	-0.003	0.38	0.003	(0.78)	-0.004*	(-1.90)
CEO Descendant	-0.003	(-0.54)	-0.002	(-0.83)	0.001	0.00	-0.001	(-0.33)	-0.001	(-0.25)
CEO-Chair	-0.002	(-0.49)	-0.002	(-0.82)	0.000	0.00	-0.001	(-0.25)	0.001	(0.25)
CEO-Group	0.001	(0.34)	0.001	(0.27)	0.000	0.01	0.000	(0.12)	0.000	(-0.05)
BIG 4	-0.005*	(-1.85)	0.000	(-0.05)	0.005	2.17	-0.003*	(-1.68)	-0.001	(-0.66)
Audit Partner Tenure	-0.007***	(-2.72)	-0.001	(-0.32)	0.006*	4.29**	-0.004*	(-1.94)	-0.001	(-0.41)

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**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.2: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Discretionary Revenues – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DR1				Equality Test (Model 5.7)		DR2			
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>
Firm Size	-0.005***	(-4.18)	-0.006***	(-6.49)	-0.001	0.14	-0.003***	(-2.75)	-0.003***	(-4.55)
Firm Age	-0.006***	(-2.68)	-0.001	(-0.55)	0.005*	3.05*	-0.004**	(-2.49)	0.000	(0.35)
Firm Growth	0.007	(1.37)	0.006*	(1.95)	-0.001	0.02	0.005	(1.28)	0.004**	(2.10)
Leverage	0.014**	(2.22)	0.012***	(3.18)	-0.002	0.04	0.001	(0.25)	0.005*	(1.86)
Constant	0.155***	(8.09)	0.113***	(7.05)			0.109***	(7.27)	0.084***	(6.90)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	1,344		2,155				1,343		2,155	
Adj. R-squared	0.069		0.079				0.049		0.062	
F-test	6.177		7.190				4.197		4.819	
p_value	0.000		0.000				0.000		0.000	

**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.3: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DA2_DR1				Equality Test (Model 5.7)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
D_Dominant	0.006	(0.47)	-0.001	(-0.17)	-0.007	0.25	0.007	(0.53)	-0.002	(-0.29)
Share Difference	0.002	(0.14)	0.007	(0.87)	0.005	0.06	0.001	(0.03)	0.007	(0.92)
CV	0.023	(1.29)	0.019**	(2.01)	-0.004	0.04	0.020	(1.11)	0.019**	(2.09)
Board Size	0.031*	(1.92)	0.029**	(2.28)	-0.002	0.01	0.030*	(1.86)	0.030**	(2.41)
Board Independence	0.028	(0.53)	0.028	(1.56)	0.000	0.00	0.027	(0.51)	0.030*	(1.68)
Board Experience	-0.009	(-0.53)	0.007	(0.69)	0.016	0.67	-0.009	(-0.48)	0.008	(0.73)
CEO Founder	-0.007	(-0.52)	-0.022***	(-4.07)	-0.015	0.93	-0.007	(-0.52)	-0.023***	(-4.14)
CEO Descendant	-0.006	(-0.35)	-0.016**	(-2.36)	-0.010	0.24	-0.007	(-0.41)	-0.016**	(-2.42)
CEO-Chair	-0.016	(-1.04)	0.006	(1.01)	0.022	1.82	-0.017	(-1.10)	0.006	(1.04)
CEO-Group	0.013	(0.88)	0.003	(0.41)	-0.010	0.42	0.013	(0.89)	0.003	(0.46)
BIG 4	0.008	(0.82)	-0.003	(-0.62)	-0.011	1.03	0.006	(0.66)	-0.003	(-0.68)
Audit Partner Tenure	-0.015	(-1.57)	-0.007*	(-1.79)	0.008	0.52	-0.013	(-1.42)	-0.008*	(-1.93)
									0.005	0.27

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**Table 5.13: An Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.3: An Impact of the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders and other corporate governance mechanisms on managers' accounting discretion (Model 5.2) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.2									
	DA2_DR1				Equality Test (Model 5.7)		DA2_DR2			
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>
Firm Size	-0.001	(-0.12)	-0.015***	(-6.59)	-0.014***	9.59***	-0.001	(-0.24)	-0.015***	(-6.58)
Firm Age	-0.022***	(-2.62)	-0.020***	(-3.96)	0.002	0.08	-0.022**	(-2.54)	-0.020***	(-3.96)
Firm Growth	-0.012	(-1.06)	0.009	(1.28)	0.021	2.52	-0.012	(-1.08)	0.009	(1.23)
Leverage	0.095***	(3.68)	0.107***	(7.56)	0.012	0.19	0.100***	(3.77)	0.108***	(7.59)
Constant	0.040	(0.63)	0.227***	(5.06)			0.047	(0.73)	0.222***	(4.95)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	774		2,148				774		2,148	
Adj. R-squared	0.072		0.104				0.074		0.104	
F-test	2.284		6.599				2.280		6.635	
p_value	0.003		0.000				0.003		0.000	

### ***5.5.3.5.2 The Impact of Ownership Concentration by Shareholder Types and the Presence of Dominant Shareholders, by their Types, on Managers' Accounting Discretion***

Table 5.14, Panels A.1 to A.3 and B.1 to B.3, shows the results of the regressions of ownership concentration by shareholder types (Model 5.3) and the presence of dominant shareholders by their types (Model 5.4) on the magnitude of accounting discretion measured by discretionary accruals and discretionary revenues before and after the corporate governance reforms, respectively.

Regarding discretionary accruals, the results from Panels A.1 and A.3 reveal that levels of family ownership are significant and negative to the magnitude of discretionary accruals for some measurements (DA2, DA2\_DR2) before the reforms. Additionally, the equality test ( $H_{a25}$ ) shows the significantly positive incremental effects of family block ownership on the discretionary accruals in the post-reform period. The Wald test also confirms that the impacts of family block ownership on the discretionary accruals in the pre-reform and the post-reform periods are significantly different. Hence it could imply that the motivation of the large family shareholders to limit the use of discretionary accruals significantly reduces after the reform. Nevertheless, the results from Panel B.1 and B.3 show no significant impact of the presence of dominant family shareholders on discretionary accruals for all measurements.

In addition, the results from Panels A.1 and A.3 reveal that levels of ownership by foreign company investors are significantly and negatively associated with the magnitude of discretionary accruals for all measurements, but only before the reforms. The equality test ( $H_{a27}$ ) shows the significantly positive incremental effects of foreign company block ownership on the discretionary accruals in the post-reform period. The Wald test also confirms that the impacts of foreign company block ownership on the discretionary accruals in the pre-reform and the post-reform periods are significantly different. Hence it could imply that the roles of foreign company blockholders to limit the use of discretionary accruals may significantly reduce after the reform. Nevertheless,

the results from Panel B.1 and B.3 show no significant impact of the presence of a dominant foreign company shareholder on discretionary accruals for all measurements.

However, the results from Panels A.1 and A.3 show that levels of ownership by bank are significant and positively associated with the magnitude of discretionary accruals (DA1) before the reforms but the significant results largely disappear after the reforms. Additionally, the equality test ( $H_{a28}$ ) shows the significantly negative incremental effects of bank block ownership on the discretionary accruals in the post-reform period. The Wald test also confirms that the impacts of bank block ownership on the discretionary accruals in the pre-reform and the post-reform periods are significantly different. Hence the evidence could imply the more alignment of interests between bank owners and firms in term of discretionary accruals. The results from Panels B.1 and B.3 also suggest that the presence of banks<sup>1</sup> as the dominant shareholders after the reforms did restrain managers from engaging in accounting discretion over accruals.

Regarding discretionary revenues, the results from Panel A.2 show that levels of family ownership are negatively associated with the magnitude of discretionary revenues (DR1, DR2), but only after the reforms, and no significant improvement is shown between two sub-periods.

Additionally, levels of ownership of bank are significant and have a negative relationship with the magnitude of discretionary revenues (DR1, DR2) before the reforms. However, the equality test ( $H_{a28}$ ) shows the significantly positive incremental effects of bank block ownership in the post-reform period. The Wald test also confirms that the impacts of bank block ownership on discretionary accruals in the pre-reform and the post-reform periods are significantly different. Inconsistent with the expectation ( $H_{a28}$ ) and the results from discretionary accruals, the evidence suggests more conflict of interests between bank owners and firms in term of discretionary revenues after the reforms.

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<sup>1</sup> There is no the presence of dominant bank shareholders before the corporate governance reform.

Levels of ownership by domestic companies are significant and negatively related to the magnitude of discretionary revenues (DR1) before the reforms. The results from Panel B.2 show that the presence of a domestic company as a dominant shareholder may have limited the use of accounting discretion over revenues, measured by DA1, only before the reforms.

Last, levels of ownership by non-bank financial institutions are significant and negatively related to the magnitude of discretionary revenues (DR1) before the reforms. Nevertheless, the equality test ( $H_{a29}$ ) reveals that the incremental effects of non-bank financial institutions block ownership on the discretionary revenues in the post-reform period are positive but not significant. The Wald test also confirms that the impacts of non-bank financial institutions block ownership on the discretionary revenues in the pre-reform and the post-reform periods are not significantly different.

However, it appears that the presence of non-bank financial institutions as the dominant shareholders is significant and positively associated with discretionary revenues, measured by all models (DR1, DR2) after the reforms. The equality test ( $H_{a33}$ ) also shows the significantly positive incremental effects of the presence of the dominant non-bank financial institution shareholder on the discretionary revenues in the post-reform period. The Wald test also confirms that the impacts of the presence of this type of the dominant shareholder on discretionary revenues in the pre-reform and the post-reform periods are significantly different. This finding reveals the more conflict of interests (for example, in terms of short-term investment strategy (Coffee, 1991) or active traders (Chen et al., 2005)) between dominant shareholders who are non-bank financial institutions and firms, after the reforms.

Overall, consistent with the results discussed in Section 5.5.3.5.2, the evidence confirms that block ownership had some influence over the degree of the alignment of interests of shareholders and their participation in monitoring. Additionally, the evidence confirms that different types of shareholders may have had different motivations and abilities to limit the use of accounting discretion.

In particular, the evidence from this section suggests that higher levels of family and foreign company block ownership may have more motivated families and foreign company blockholders to limit the use of accounting discretion over accruals only before the reforms. In addition, high levels of ownership by domestic companies and non-bank financial institutions limited the use of accounting discretion over revenues only before the reforms. However, the significant impacts of these types of ownership structures on accounting discretions over accruals and revenues disappeared after the corporate governance reform. The evidence suggests that the stronger corporate governance and accounting standards since 1999 may have significantly reduced these blockholders' motivation and ability to exercise control over financial reporting (for examples, see La Porta et al. 1998, 1999, 2000). Nevertheless, the evidence suggests that family block ownership seems to have restrained family blockholders from engaging in accounting discretion over revenues after the reforms.

Regarding bank block ownership, there is evidence that an increase levels of banks block ownership may motivate bank blockholders to engage in opportunistic accounting discretion over accruals before the reforms. Hence some conflict of interests between bank owners and firms is evident. In fact, higher proportions of shares owned by banks are expected to lead to more discretionary accruals, and this evidence is consistent with some research findings, such as those of Brickley et al. (1988), which suggest that banks are “pressure-sensitive” investors and more likely to vote in favour of managers because of their business relationship.

Since most Thai listed firms have very close relationships with banks,<sup>2</sup> their ability to independently monitor firms may be limited. Nevertheless, stronger corporate governance seems to have minimised these conflicts. In addition, having the role of dominant shareholders does appear to have helped banks to align their interests with those of firms, inhibiting the use of accounting discretion over accruals after the reforms.

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<sup>2</sup> Detailed discussion on the relationships between banks and Thai business groups is presented in Section 3.3 in Chapter 4.

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms**

**Panel A.1: An Impact of *Ownership Concentration by Types of Shareholders* and Other Corporate Governance Mechanisms on *Discretionary Accruals* – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reform. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3											
	DA1				Equality Test (Model 5.8)		DA2				Equality Test (Model 5.8)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Family Own	-0.037	(-1.22)	0.016	(1.04)	0.053	2.46	-0.053*	(-1.67)	0.013	(0.81)	0.066*	3.49*
Government Own	-0.105	(-1.17)	-0.044	(-1.10)	0.061	0.40	-0.102	(-1.12)	-0.050	(-1.32)	0.052	0.27
Foreign Company Own	-0.073*	(-1.88)	0.006	(0.40)	0.079*	3.62*	-0.093**	(-2.36)	-0.002	(-0.13)	0.091**	4.66**
Domestic Company Own	-0.050	(-0.60)	0.018	(0.82)	0.068	0.63	-0.056	(-0.68)	0.001	(0.03)	0.057	0.45
Bank Own	0.525*	(1.96)	-0.093	(-1.13)	-0.618**	4.95**	0.430	(1.59)	-0.074	(-0.88)	-0.504*	3.23*
Non-Bank Fin.Insti.	-0.165	(-1.54)	0.057	(0.65)	0.222	2.57	-0.171	(-1.52)	0.028	(0.34)	0.199	2.07
Share Difference	0.017	(0.90)	0.00002	(0.00)	-0.017	0.69	0.016	(0.83)	0.001	(0.14)	-0.015	0.51
CV	0.039**	(2.09)	0.022**	(2.34)	-0.017	0.61	0.026	(1.36)	0.022**	(2.21)	-0.004	0.03
Board Size	0.035**	(2.16)	0.034***	(2.72)	-0.001	0.00	0.026	(1.62)	0.034***	(2.67)	0.008	0.15
Board Independence	0.004	(0.08)	0.030*	(1.68)	0.026	0.21	0.015	(0.27)	0.032*	(1.79)	0.017	0.09
Board Experience	-0.016	(-0.86)	0.010	(0.91)	0.026	1.46	-0.013	(-0.68)	0.008	(0.74)	0.021	0.94

(This table is continued on the next page)



**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.1: An Impact of *Ownership Concentration by Types of Shareholders* and Other Corporate Governance Mechanisms on *Discretionary Accruals* – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3											
	DA1				Equality Test (Model 5.8)		DA2				Equality Test (Model 5.8)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
CEO Founder	-0.009	(-0.59)	-0.022***	(-3.86)	-0.013	0.69	-0.010	(-0.65)	-0.024***	(-4.18)	-0.014	0.83
CEO Descendant	0.002	(0.12)	-0.017***	(-2.58)	-0.019	1.12	-0.003	(-0.16)	-0.018***	(-2.59)	-0.015	0.59
CEO-Chair	-0.016	(-1.03)	0.008	(1.18)	0.024	1.98	-0.015	(-0.96)	0.005	(0.87)	0.020	1.52
CEO-Group	0.010	(0.64)	0.003	(0.42)	-0.007	0.17	0.015	(0.95)	0.002	(0.24)	-0.013	0.61
BIG 4	0.002	(0.21)	-0.004	(-0.77)	-0.006	0.29	0.009	(0.97)	-0.003	(-0.55)	-0.012	1.26
Audit Partner												
Tenure	-0.009	(-0.96)	-0.007*	(-1.74)	0.002	0.03	-0.014	(-1.45)	-0.007	(-1.63)	0.007	0.44
Firm Size	-0.001	(-0.33)	-0.016***	(-6.85)	-0.015***	8.53***	-0.001	(-0.17)	-0.015***	(-6.25)	-0.014***	7.54***
Firm Age	-0.019**	(-2.18)	-0.019***	(-3.84)	0.000	0.00	-0.021**	(-2.25)	-0.020***	(-4.01)	0.001	0.00
Firm Growth	-0.012	(-1.17)	0.006	(0.82)	0.018	2.06	-0.017	(-1.45)	0.010	(1.34)	0.027**	3.81**
Leverage	0.111***	(4.30)	0.109***	(7.73)	-0.002	0.00	0.100***	(3.67)	0.107***	(7.47)	0.007	0.05
Constant	0.039	(0.56)	0.212***	(4.46)			0.075	(1.05)	0.203***	(4.31)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	801		2,190				774		2,148			
Adj. R-squared	0.104		0.108				0.084		0.104			
F-test	2.833		5.593				2.393		5.140			
p_value	0.000		0.000				0.000		0.000			

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.2: An Impact of *Ownership Concentration by Types of Shareholders* and Other Corporate Governance Mechanisms on *Discretionary Revenues* – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3											
	DR1				Equality Test (Model 5.8)		DR2				Equality Test (Model 5.8)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Family Own	-0.014	(-1.47)	-0.022***	(-3.61)	-0.008	0.42	-0.008	(-1.07)	-0.012***	(-2.58)	-0.004	0.25
Government Own	0.012	(0.35)	0.007	(0.46)	-0.005	0.02	-0.018	(-1.24)	0.007	(0.58)	0.025	1.79
Foreign Company Own	0.010	(0.81)	-0.006	(-0.80)	-0.016	1.25	0.004	(0.41)	0.0003	(0.05)	-0.004	0.09
Domestic Company Own	-0.033**	(-2.41)	-0.010	(-0.71)	0.023	1.35	-0.014	(-1.11)	-0.013	(-1.20)	0.001	0.01
Bank Own	-0.142***	(-3.20)	0.053	(1.16)	0.195***	9.35***	-0.122***	(-3.21)	0.054	(1.44)	0.176***	10.89***
Non-Bank Fin.Insti. Own	-0.081**	(-2.50)	-0.020	(-0.64)	0.061	1.83	-0.030	(-1.18)	-0.0002	(-0.01)	0.030	0.79
Share Difference	0.008	(1.39)	0.003	(0.77)	-0.005	0.57	0.009**	(2.18)	0.002	(0.54)	-0.007	2.16
CV	0.003	(0.67)	-0.002	(-0.50)	-0.005	0.70	0.003	(0.80)	-0.001	(-0.42)	-0.004	0.79
Board Size	-0.013***	(-2.71)	-0.003	(-0.54)	0.010	2.25	-0.011***	(-2.87)	-0.007**	(-2.13)	0.004	0.66
Board Independence	-0.004	(-0.28)	0.009	(1.26)	0.013	0.60	-0.007	(-0.65)	-0.001	(-0.18)	0.006	0.26
Board Experience	0.004	(0.83)	-0.009**	(-2.02)	-0.013*	3.70*	0.007	(1.53)	-0.007**	(-2.02)	-0.014**	5.95**
CEO Founder	-0.001	(-0.14)	-0.002	(-0.98)	-0.001	0.15	0.002	(0.68)	-0.003*	(-1.65)	-0.005	2.05
CEO Descendant	-0.003	(-0.71)	-0.001	(-0.28)	0.002	0.23	-0.002	(-0.45)	0.0003	(0.13)	0.002	0.21

(This table is continued on the next page)

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.2: An Impact of *Ownership Concentration by Types of Shareholders* and Other Corporate Governance Mechanisms on *Discretionary Revenues* – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3											
	DR1				Equality Test (Model 5.8)		DR2				Equality Test (Model 5.8)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
CEO-Chair	-0.003	(-0.56)	-0.001	(-0.50)	0.002	0.08	-0.002	(-0.37)	0.001	(0.49)	0.003	0.31
CEO-Group	0.002	(0.44)	0.002	(0.69)	0.000	0.00	0.001	(0.26)	0.001	(0.35)	0.000	0.00
BIG 4	-0.005*	(-1.92)	-0.001	(-0.38)	0.004	1.83	-0.003*	(-1.68)	-0.002	(-1.02)	0.001	0.58
Audit Partner												
Tenure	-0.008***	(-2.94)	-0.001	(-0.75)	0.007**	4.13**	-0.004*	(-1.89)	-0.001	(-0.83)	0.003	1.28
Firm Size	-0.006***	(-4.79)	-0.006***	(-6.71)	0.000	0.02	-0.003***	(-2.82)	-0.003***	(-4.50)	0.000	0.01
Firm Age	-0.008***	(-3.39)	-0.001	(-0.60)	0.007**	5.55**	-0.006***	(-2.92)	0.0004	(0.28)	0.006***	6.43***
Firm Growth	0.007	(1.43)	0.006*	(1.83)	-0.001	0.07	0.005	(1.32)	0.004**	(1.99)	-0.001	0.05
Leverage	0.018***	(2.84)	0.012***	(3.19)	-0.006	0.59	0.003	(0.67)	0.005*	(1.81)	0.002	0.12
Constant	0.179***	(8.73)	0.129***	(7.55)			0.118***	(7.41)	0.094***	(7.08)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	1,344		2,155				1,343		2,155			
Adj. R-squared	0.080		0.085				0.052		0.066			
F-test	5.432		6.549				3.851		4.019			
p_value	0.000		0.000				0.000		0.000			

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.3: An Impact of Ownership Concentration by Types of Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3											
	DA2 DR1				Equality Test (Model 5.8)		DA2 DR2				Equality Test (Model 5.8)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Family Own	-0.052	(-1.64)	0.013	(0.85)	0.065*	3.45*	-0.054*	(-1.71)	0.012	(0.76)	0.066*	3.53*
Government Own	-0.102	(-1.14)	-0.051	(-1.32)	0.051	0.28	-0.108	(-1.20)	-0.053	(-1.40)	0.055	0.31
Foreign Company Own	-0.096**	(-2.44)	-0.002	(-0.15)	0.094**	4.97**	-0.096**	(-2.43)	-0.003	(-0.18)	0.093**	4.90**
Domestic Company Own	-0.054	(-0.65)	0.003	(0.12)	0.057	0.44	-0.059	(-0.72)	0.006	(0.25)	0.065	0.59
Bank Own	0.437	(1.61)	-0.072	(-0.86)	-0.509*	3.28*	0.444	(1.64)	-0.076	(-0.90)	-0.520*	3.40*
Non-Bank Fin.Insti. Own	-0.173	(-1.55)	0.028	(0.35)	0.201	2.15	-0.179	(-1.61)	0.022	(0.27)	0.201	2.15
Share Difference	0.017	(0.88)	0.001	(0.16)	-0.016	0.57	0.016	(0.84)	0.002	(0.21)	-0.014	0.49
CV	0.026	(1.37)	0.022**	(2.22)	-0.004	0.03	0.022	(1.19)	0.023**	(2.31)	0.001	0.00
Board Size	0.027*	(1.69)	0.033***	(2.59)	0.006	0.08	0.027	(1.63)	0.035***	(2.71)	0.008	0.15
Board Independence	0.017	(0.31)	0.030*	(1.70)	0.013	0.05	0.015	(0.28)	0.032*	(1.81)	0.017	0.09
Board Experience	-0.014	(-0.75)	0.009	(0.79)	0.023	1.12	-0.013	(-0.69)	0.009	(0.85)	0.022	1.06

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**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel A.3: An Impact of Ownership Concentration by Types of Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of ownership concentration by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.3) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.3									
	DA2_DR1				Equality Test (Model 5.8)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
CEO Founder	-0.009	(-0.58)	-0.024***	(-4.13)	-0.015	0.92	-0.008	(-0.57)	-0.024***	(-4.19)
CEO Descendant	-0.004	(-0.20)	-0.017**	(-2.58)	-0.013	0.53	-0.005	(-0.26)	-0.018***	(-2.61)
CEO-Chair	-0.016	(-1.07)	0.006	(0.89)	0.022	1.80	-0.017	(-1.14)	0.006	(0.93)
CEO-Group	0.015	(0.98)	0.002	(0.23)	-0.013	0.65	0.015	(1.00)	0.002	(0.29)
BIG 4	0.010	(1.09)	-0.002	(-0.49)	-0.012	1.44	0.009	(0.93)	-0.003	(-0.56)
Audit Partner	-0.014	(-1.46)	-0.007	(-1.60)	0.007	0.47	-0.012	(-1.31)	-0.007*	(-1.75)
Firm Size	0.000	(-0.06)	-0.015***	(-6.24)	-0.015***	8.13***	-0.001	(-0.17)	-0.015***	(-6.24)
Firm Age	-0.021**	(-2.27)	-0.020***	(-3.97)	0.001	0.00	-0.020**	(-2.20)	-0.020***	(-3.98)
Firm Growth	-0.016	(-1.39)	0.010	(1.34)	0.026*	3.62*	-0.016	(-1.42)	0.010	(1.30)
Leverage	0.094***	(3.58)	0.107***	(7.47)	0.013	0.19	0.100***	(3.68)	0.107***	(7.51)
Constant	0.067	(0.95)	0.205***	(4.37)			0.075	(1.05)	0.200***	(4.26)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	774		2,148				774		2,148	
Adj. R-squared	0.084		0.104				0.086		0.104	
F-test	2.408		5.125				2.412		5.172	
p_value	0.000		0.000				0.000		0.000	

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.1: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Mode 5.4									
	DA1				Equality Test (Model 5.9)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
D_Family	0.015	(1.04)	0.002	(0.26)	-0.013	0.71	0.014	(0.92)	0.003	(0.45)
D_Government	0.003	(0.08)	-0.024	(-1.36)	-0.027	0.40	0.010	(0.27)	-0.024	(-1.41)
D_Foreign	-0.006	(-0.45)	-0.003	(-0.35)	0.003	0.06	-0.006	(-0.42)	-0.005	(-0.69)
D_Domestic	0.067	(1.33)	-0.006	(-0.57)	-0.073	2.04	0.062	(1.31)	-0.008	(-0.78)
D_Bank Own	-	(-)	-0.053***	(-4.73)	-	-	-	(-)	-0.051***	(-4.72)
D_Non-Bank Fin.	-0.042	(-1.59)	0.039	(0.83)	0.081	2.29	-0.048	(-1.63)	0.029	(0.64)
Share Difference	-0.005	(-0.28)	0.004	(0.45)	0.009	0.19	-0.009	(-0.48)	0.004	(0.45)
CV	0.041**	(2.34)	0.023**	(2.34)	-0.018	0.83	0.032*	(1.81)	0.022**	(2.28)
Board Size	0.038**	(2.36)	0.034***	(2.74)	-0.004	0.03	0.030*	(1.80)	0.034***	(2.67)
Board Independence	0.013	(0.26)	0.032*	(1.76)	0.019	0.11	0.024	(0.44)	0.034*	(1.87)
Board Experience	-0.005	(-0.29)	0.009	(0.91)	0.014	0.49	-0.004	(-0.22)	0.008	(0.75)
CEO Founder	-0.013	(-0.86)	-0.022***	(-3.95)	-0.009	0.35	-0.012	(-0.80)	-0.023***	(-4.20)
CEO Descendant	-0.002	(-0.11)	-0.017**	(-2.55)	-0.015	0.67	-0.005	(-0.26)	-0.017**	(-2.57)

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**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.1: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Mode 5.4											
	DA1				Equality Test (Model 5.9)		DA2				Equality Test (Model 5.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
CEO-Chair	-0.015	(-0.95)	0.007	(1.10)	0.022	1.67	-0.014	(-0.90)	0.005	(0.75)	0.019	1.26
CEO-Group	0.005	(0.34)	0.004	(0.56)	-0.001	0.01	0.009	(0.58)	0.002	(0.37)	-0.007	0.15
BIG 4	0.000	(0.01)	-0.003	(-0.70)	-0.003	0.11	0.005	(0.57)	-0.002	(-0.47)	-0.007	0.52
Audit Partner Tenure	-0.012	(-1.30)	-0.007	(-1.63)	0.005	0.26	-0.016*	(-1.66)	-0.006	(-1.49)	0.010	0.84
Firm Size	-0.002	(-0.54)	-0.016***	(-6.94)	-0.014***	8.41***	-0.002	(-0.39)	-0.015***	(-6.35)	-0.013***	7.31***
Firm Age	-0.021**	(-2.40)	-0.019***	(-3.73)	0.002	0.05	-0.022**	(-2.42)	-0.020***	(-3.88)	0.002	0.05
Firm Growth	-0.009	(-0.90)	0.005	(0.71)	0.014	1.33	-0.014	(-1.22)	0.009	(1.26)	0.023*	2.91*
Leverage	0.109***	(4.25)	0.108***	(7.79)	-0.001	0.00	0.097***	(3.60)	0.106***	(7.52)	0.009	0.09
Constant	0.027	(0.42)	0.217***	(4.51)			0.057	(0.87)	0.204***	(4.32)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	801		2,190				774		2,148			
Adj. R-squared	0.095		0.110				0.076		0.106			
F-test	2.655		6.619				2.092		6.439			
p_value	0.000		0.000				0.004		0.000			

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.2: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Discretionary Revenues – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.4									
	DR1				Equality Test (Model 5.9)		DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		t		t				t		t
D_Family	-0.004	(-1.02)	-0.004	(-1.49)	0.000	0.00	0.002	(0.75)	-0.001	(-0.60)
D_Government	0.006	(0.47)	0.008	(1.52)	0.002	0.01	-0.002	(-0.31)	0.003	(0.84)
D_Foreign	0.004	(0.79)	0.004	(1.25)	0.000	0.01	0.006	(1.60)	0.005	(1.60)
D_Domestic	-0.017**	(-2.50)	0.002	(0.20)	0.019*	3.02*	0.000	(-0.03)	0.001	(0.20)
D_Bank Own	-	(-)	-0.006	(-0.75)	-	-	-	(-)	0.003	(0.36)
D_Non-Bank Fin.										
Insti.	-0.014	(-1.46)	0.043*	(1.69)	0.057**	4.38**	-0.005	(-0.57)	0.026	(1.58)
Share Difference	0.008	(1.51)	-0.002	(-0.53)	-0.010	2.39	0.005	(1.35)	-0.002	(-0.71)
CV	0.002	(0.43)	-0.002	(-0.66)	-0.004	0.54	0.004	(0.90)	-0.001	(-0.35)
Board Size	-0.013***	(-2.64)	-0.003	(-0.55)	0.010	2.10	-0.012***	(-2.90)	-0.007**	(-2.00)
Board Independence	0.001	(0.06)	0.007	(0.98)	0.006	0.11	-0.006	(-0.53)	-0.002	(-0.42)
Board Experience	0.001	(0.17)	-0.008**	(-2.13)	-0.009	2.02	0.005	(1.07)	-0.006**	(-2.01)
CEO Founder	0.001	(0.19)	-0.002	(-0.65)	-0.003	0.25	0.003	(0.85)	-0.003	(-1.52)
CEO Descendant	-0.002	(-0.52)	-0.001	(-0.41)	0.001	0.06	-0.001	(-0.32)	0.000	(0.05)

(This table is continued on the next page)



**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.2: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Discretionary Revenues – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.4											
	DR1				Equality Test (Model 5.9)		DR2				Equality Test (Model 5.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
CEO-Chair	-0.003	(-0.52)	-0.001	(-0.39)	0.002	0.08	-0.001	(-0.25)	0.001	(0.57)	0.002	0.24
CEO-Group	0.002	(0.43)	0.002	(0.79)	0.000	0.01	0.001	(0.13)	0.001	(0.34)	0.000	0.00
BIG 4	-0.005**	(-1.97)	-0.001	(-0.63)	0.004	1.50	-0.004*	(-1.85)	-0.002	(-1.19)	0.002	0.64
Audit Partner Tenure	-0.008***	(-2.80)	-0.001	(-0.44)	0.007**	4.32**	-0.004*	(-1.92)	-0.001	(-0.54)	0.003	1.74
Firm Size	-0.005***	(-4.34)	-0.006***	(-6.84)	-0.001	0.10	-0.003***	(-2.79)	-0.003***	(-4.52)	0.000	0.02
Firm Age	-0.007***	(-3.04)	-0.001	(-0.62)	0.006**	4.03**	-0.005***	(-2.65)	0.000	(0.14)	0.005**	4.82**
Firm Growth	0.007	(1.40)	0.005*	(1.89)	-0.002	0.12	0.005	(1.28)	0.004**	(2.10)	-0.001	0.06
Leverage	0.016**	(2.49)	0.013***	(3.39)	-0.003	0.12	0.002	(0.38)	0.006**	(2.02)	0.004	0.53
Constant	0.161***	(8.23)	0.127***	(7.69)			0.110***	(7.28)	0.091***	(7.11)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	1,344		2,155				1,343		2,155			
Adj. R-squared	0.071		0.086				0.047		0.065			
F-test	5.346		6.725				3.554		4.242			
p value	0.000		0.000				0.000		0.000			

**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.3: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.4									
	DA2_DR1				Equality Test (Model 5.9)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		t		t				t		t
D_Family	0.014	(0.94)	0.003	(0.48)	-0.011	0.43	0.015	(1.00)	0.002	(0.36)
D_Government	0.011	(0.27)	-0.024	(-1.41)	-0.035	0.66	0.009	(0.23)	-0.026	(-1.51)
D_Foreign Company	-0.007	(-0.47)	-0.005	(-0.68)	0.002	0.01	-0.006	(-0.44)	-0.006	(-0.75)
D_Domestic company	0.063	(1.32)	-0.008	(-0.78)	-0.071	2.15	0.063	(1.32)	-0.007	(-0.72)
D_Bank Own	-	(-)	-0.051***	(-4.69)	-	-	-	(-)	-0.051***	(-4.65)
D_Non-Bank Fin.	-0.046	(-1.62)	0.029	(0.64)	0.075	1.99	-0.045*	(-1.69)	0.028	(0.62)
Share Difference	-0.008	(-0.40)	0.004	(0.48)	0.012	0.32	-0.010	(-0.50)	0.004	(0.54)
CV	0.032*	(1.82)	0.022**	(2.29)	-0.010	0.22	0.029	(1.64)	0.023**	(2.37)
Board Size	0.030*	(1.87)	0.033***	(2.59)	0.003	0.01	0.030*	(1.81)	0.035***	(2.72)
Board Independence	0.026	(0.49)	0.032*	(1.77)	0.006	0.01	0.024	(0.46)	0.034*	(1.90)
Board Experience	-0.005	(-0.27)	0.008	(0.79)	0.013	0.41	-0.004	(-0.22)	0.009	(0.85)
CEO Founder	-0.010	(-0.72)	-0.023***	(-4.15)	-0.013	0.68	-0.010	(-0.72)	-0.024***	(-4.22)
CEO Descendant	-0.005	(-0.30)	-0.017**	(-2.56)	-0.012	0.38	-0.007	(-0.37)	-0.017***	(-2.60)

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**Table 5.14: An Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholders by their Types and Other Corporate Governance Mechanisms on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')**

**Panel B.3: An Impact of the Presence of Dominant Shareholders by Types of Shareholders and Other Corporate Governance Mechanisms on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of the presence of dominant shareholders by types of shareholder and other corporate governance mechanisms on managers' accounting discretion (Model 5.4) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.4											
	DA2_DR1				Equality Test (Model 5.9)		DA2_DR2				Equality Test (Model 5.9)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
CEO-Chair	-0.016	(-1.00)	0.005	(0.77)	0.021	1.50	-0.017	(-1.07)	0.005	(0.81)	0.022	1.70
CEO-Group	0.009	(0.61)	0.002	(0.36)	-0.007	0.17	0.009	(0.61)	0.003	(0.42)	-0.006	0.16
BIG 4	0.006	(0.68)	-0.002	(-0.40)	-0.008	0.63	0.005	(0.53)	-0.002	(-0.49)	-0.007	0.48
Audit Partner	-0.016*	(-1.67)	-0.006	(-1.47)	0.010	0.87	-0.014	(-1.51)	-0.007	(-1.62)	0.007	0.54
Firm Size	-0.001	(-0.28)	-0.015***	(-6.35)	-0.014***	7.92***	-0.002	(-0.38)	-0.015***	(-6.32)	-0.013***	7.33***
Firm Age	-0.022**	(-2.46)	-0.019***	(-3.84)	0.003	0.08	-0.021**	(-2.38)	-0.019***	(-3.85)	0.002	0.04
Firm Growth	-0.013	(-1.15)	0.009	(1.26)	0.022*	2.72*	-0.014	(-1.18)	0.009	(1.22)	0.023*	2.74*
Leverage	0.091***	(3.49)	0.106***	(7.53)	0.015	0.26	0.097***	(3.60)	0.107***	(7.56)	0.010	0.10
Constant	0.049	(0.75)	0.206***	(4.39)			0.054	(0.83)	0.200***	(4.27)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	774		2,148				774		2,148			
Adj. R-squared	0.074		0.106				0.076		0.106			
F-test	2.117		6.420				2.102		6.405			
p_value	0.003		0.000				0.003		0.000			

#### ***5.5.3.5.3 The Impact of Managerial Ownership on Managers' Accounting Discretion***

Table 5.15, Panels A.1 to A.3, shows the results of the regressions of managerial ownership, defined as the total ownership of all directors (Model 5.5), on discretionary accruals and discretionary revenues before and after the corporate governance reforms.

Regarding discretionary accruals, the results in Panels A.1 and A.3 suggest that there was no significant impact of managerial ownership (all directors) on the magnitude of discretionary accruals, for all measurements and in both sub-periods.

Regarding discretionary revenues, the results in Panel A.2 reveal that managerial ownership may have aligned managers' interests with firms' interests and thereby limited the use of accounting discretion over revenues (DR1) after the reforms. In addition, the equality test ( $H_{a34}$ ) shows the significantly negative incremental effects of managerial ownership on THE discretionary revenues in the post-reform period. The Wald test also confirms that the impacts of managerial ownership on the discretionary revenues in the pre-reform and the post-reform periods are significantly different. This finding reveals that managerial ownership could significantly reduce the motivation of managers to engage in accounting discretion over revenues after the reforms.

However, focusing only on ownership by executive directors, Table 5.15, Panel B.2, shows that the coefficients of Manager Own (executive director ownership) are significantly and positively associated with discretionary revenues, measured by all models before the reforms but have a significantly negative association with them after the reforms. In addition, the equality test ( $H_{a34}$ ) shows the significantly negative incremental effects of executive director ownership on the discretionary revenues in the post-reform period. The Wald test also confirms that the impacts of executive director ownership on the discretionary revenues in the pre-reform and the post-reform periods are significantly different. This finding reveals that the executive director ownership could significantly reduce the motivation of executive directors to engage in accounting discretion over revenues after the reforms.

The evidence strongly suggests that increasing levels of ownership by executive directors led to their entrenchment and higher levels of accounting discretion over revenues before the reforms. However, many regulations regarding the role and responsibility of directors have become clearer and more restrictive. Therefore, the reforms may have partly limited the opportunistic behaviour of executive directors, at least in respect to their accounting discretion over revenues. These findings contrast with those of Hutchinson et al. (2008), from Australia, which suggest that high levels of executive ownership led to high earnings management, even after the Australian corporate governance reforms.

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms****Panel A.1: An Impact of Ownership of All Directors on Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA1				Equality Test (Model 5.10)		DA2			
	Pre-Reform	t	Post-Reform	t	Inct. Effect	Wald Test (F)	Pre-Reform	t	Post-Reform	t
Manager Own	0.010	(0.59)	-0.001	(-0.09)	-0.011	0.29	0.006	(0.34)	0.004	(0.33)
Share Difference	0.007	(0.49)	0.005	(0.67)	-0.002	0.01	0.004	(0.23)	0.005	(0.63)
CV	0.030*	(1.71)	0.020**	(2.14)	-0.010	0.28	0.022	(1.22)	0.019**	(2.05)
Board Size	0.040**	(2.47)	0.030**	(2.46)	-0.010	0.21	0.031*	(1.88)	0.030**	(2.39)
Board Independence	0.020	(0.38)	0.028	(1.58)	0.008	0.02	0.029	(0.54)	0.030*	(1.67)
Board Experience	-0.011	(-0.62)	0.008	(0.74)	0.019	0.83	-0.010	(-0.55)	0.007	(0.63)
CEO Founder	-0.010	(-0.67)	-0.021***	(-3.74)	-0.011	0.53	-0.009	(-0.61)	-0.023***	(-4.03)
CEO Descendant	-0.002	(-0.14)	-0.016**	(-2.32)	-0.014	0.52	-0.005	(-0.30)	-0.016**	(-2.37)
CEO-Chair	-0.016	(-1.02)	0.008	(1.27)	0.024	2.01	-0.015	(-0.97)	0.006	(0.95)
CEO-Group	0.008	(0.56)	0.004	(0.53)	-0.004	0.08	0.012	(0.81)	0.002	(0.34)
BIG 4	0.001	(0.15)	-0.004	(-0.84)	-0.005	0.27	0.007	(0.73)	-0.003	(-0.62)
Audit Partner Tenure	-0.011	(-1.20)	-0.008*	(-1.95)	0.003	0.08	-0.014	(-1.53)	-0.007*	(-1.79)

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**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel A.1: An Impact of Ownership of All Directors on Discretionary Accruals – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5											
	DA1				Equality Test (Model 5.10)		DA2				Equality Test (Model 5.10)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Firm Size	-0.001	(-0.37)	-0.016***	(-7.00)	-0.015***	10.11**	-0.001	(-0.17)	-0.015***	(-6.43)	-0.014***	9.06***
Firm Age	-0.020**	(-2.37)	-0.019***	(-3.76)	0.001	0.01	-0.022**	(-2.48)	-0.020***	(-3.93)	0.002	0.04
Firm Growth	-0.008	(-0.77)	0.005	(0.74)	0.013	1.13	-0.013	(-1.12)	0.010	(1.30)	0.023*	2.73*
Leverage	0.112***	(4.45)	0.109***	(7.81)	-0.003	0.01	0.100**	(3.77)	0.107***	(7.55)	0.007	0.05
Constant	0.013	(0.20)	0.234***	(4.76)			0.042	(0.65)	0.221***	(4.59)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	801		2,190				774		2,148			
Adj. R-squared	0.093		0.108				0.074		0.104			
F-test	2.970		7.088				2.278		6.622			
p value	0.000		0.000				0.003		0.000			

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms****Panel A.2: An Impact of Ownership of All Directors on Discretionary Revenues– before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DR1				Equality Test (Model 5.10)		DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Manager Own	0.002	(0.38)	-0.011**	(-2.49)	-0.013*	3.05*	-0.0003	(-0.06)	-0.004	(-1.29)
Share Difference	0.003	(0.68)	-0.002	(-0.54)	-0.005	0.76	0.007*	(1.94)	-0.002	(-0.66)
CV	0.004	(0.84)	0.000	(0.06)	-0.004	0.41	0.004	(0.94)	0.001	(0.27)
Board Size	-0.013***	(-2.78)	-0.001	(-0.23)	0.012*	3.15*	-0.012***	(-2.96)	-0.006*	(-1.73)
Board Independence	0.000	(0.01)	0.009	(1.28)	0.009	0.26	-0.005	(-0.43)	-0.001	(-0.15)
Board Experience	0.000	(0.08)	-0.009**	(-2.09)	-0.009	1.80	0.004	(0.96)	-0.006**	(-2.00)
CEO Founder	-0.001	(-0.16)	-0.002	(-0.71)	-0.001	0.05	0.003	(0.83)	-0.003*	(-1.70)
CEO Descendant	-0.003	(-0.63)	-0.001	(-0.44)	0.002	0.11	-0.001	(-0.25)	0.000	(-0.04)
CEO-Chair	-0.002	(-0.48)	-0.002	(-0.61)	0.000	0.02	-0.001	(-0.28)	0.001	(0.33)
CEO-Group	0.001	(0.26)	0.002	(0.57)	0.001	0.01	0.001	(0.16)	0.000	(0.13)
BIG 4	-0.005*	(-1.82)	-0.001	(-0.47)	0.004	1.42	-0.003*	(-1.67)	-0.001	(-0.86)
Audit Partner Tenure	-0.008***	(-2.80)	-0.001	(-0.43)	0.007**	4.31**	-0.004*	(-1.83)	-0.001	(-0.47)

(This table is continued on the next page)



**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel A.2: An Impact of Ownership of All Directors on Discretionary Revenues– before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5											
	DR1				Equality Test (Model 5.10)		DR2				Equality Test (Model 5.10)	
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)
	<i>t</i>	<i>t</i>	<i>t</i>	<i>t</i>			<i>t</i>	<i>t</i>				
Firm Size	-0.005***	(-4.16)	-0.006***	(-6.69)	-0.001	0.32	-0.003***	(-2.69)	-0.003***	(-4.62)	0.000	0.07
Firm Age	-0.006***	(-2.63)	-0.001	(-0.70)	0.005	2.64	-0.004**	(-2.45)	0.000	(0.25)	0.004**	4.40**
Firm Growth	0.007	(1.37)	0.006*	(1.88)	-0.001	0.04	0.005	(1.27)	0.004**	(2.04)	-0.001	0.02
Leverage	0.014**	(2.17)	0.012***	(3.23)	-0.002	0.02	0.001	(0.28)	0.005*	(1.87)	0.004	0.56
Constant	0.154***	(7.96)	0.123***	(7.60)			0.109***	(7.14)	0.088***	(6.95)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	1,344		2,155				1,343		2,155			
Adj. R-squared	0.069		0.081				0.048		0.062			
F-test	6.167		7.310				4.143		4.738			
p_value	0.000		0.000				0.000		0.000			

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel A.3: An Impact of Ownership of All Directors on Adjusted Discretionary Accruals– before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA2_DR1				Equality Test (Model 5.10)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Manager Own	0.006	(0.34)	0.004	(0.34)	-0.002	0.01	0.006	(0.36)	0.003	(0.26)
Share Difference	0.005	(0.34)	0.005	(0.68)	0.000	0.00	0.004	(0.25)	0.006	(0.70)
CV	0.021	(1.21)	0.019**	(2.04)	-0.002	0.02	0.018	(1.03)	0.020**	(2.12)
Board Size	0.032*	(1.96)	0.029**	(2.30)	-0.003	0.02	0.031*	(1.90)	0.030**	(2.42)
Board Independence	0.031	(0.58)	0.028	(1.57)	-0.003	0.00	0.030	(0.56)	0.030*	(1.68)
Board Experience	-0.011	(-0.60)	0.007	(0.68)	0.018	0.75	-0.010	(-0.55)	0.008	(0.72)
CEO Founder	-0.008	(-0.52)	-0.023***	(-3.98)	-0.015	0.94	-0.008	(-0.53)	-0.023***	(-4.03)
CEO Descendant	-0.006	(-0.34)	-0.016**	(-2.35)	-0.010	0.27	-0.007	(-0.40)	-0.016**	(-2.39)
CEO-Chair	-0.017	(-1.07)	0.006	(0.97)	0.023	1.87	-0.018	(-1.14)	0.006	(1.01)
CEO-Group	0.013	(0.84)	0.002	(0.34)	-0.011	0.40	0.013	(0.86)	0.003	(0.40)
BIG 4	0.008	(0.83)	-0.003	(-0.56)	-0.011	0.99	0.006	(0.67)	-0.003	(-0.63)
Audit Partner Tenure	-0.014	(-1.55)	-0.007*	(-1.76)	0.007	0.49	-0.013	(-1.39)	-0.008*	(-1.91)

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**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel A.3: An Impact of Ownership of All Directors on Adjusted Discretionary Accruals– before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (All directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA2_DR1				Equality Test (Model 5.10)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Firm Size	0.000	(-0.07)	-0.015***	(-6.43)	-0.015***	9.77***	-0.001	(-0.18)	-0.015***	(-6.44)
Firm Age	-0.022**	(-2.52)	-0.020***	(-3.90)	0.002	0.06	-0.021**	(-2.44)	-0.020***	(-3.90)
Firm Growth	-0.012	(-1.05)	0.010	(1.29)	0.022	2.54	-0.012	(-1.08)	0.009	(1.25)
Leverage	0.095***	(3.70)	0.107***	(7.56)	0.012	0.18	0.101***	(3.79)	0.108***	(7.59)
Constant	0.035	(0.54)	0.223***	(4.66)			0.041	(0.63)	0.219***	(4.57)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	774		2,148				774		2,148	
Adj. R-squared	0.072		0.104				0.074		0.104	
F-test	2.275		6.599				2.272		6.636	
p_value	0.003		0.000				0.003		0.000	

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.1: An Impact of Ownership of Executive Directors on Discretionary Accruals– before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA1				Equality Test (Model 5.10)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		t		t				t		t
Manager Own	-0.003	(-0.11)	0.003	(0.21)	0.006	0.04	0.008	(0.29)	0.004	(0.20)
Share Difference	0.011	(0.75)	0.005	(0.63)	-0.006	0.13	0.005	(0.35)	0.006	(0.74)
CV	0.031*	(1.76)	0.020**	(2.15)	-0.011	0.34	0.022	(1.22)	0.019**	(2.02)
Board Size	0.039**	(2.45)	0.030**	(2.47)	-0.009	0.20	0.030*	(1.85)	0.030**	(2.37)
Board Independence	0.018	(0.34)	0.028	(1.59)	0.010	0.04	0.028	(0.52)	0.030*	(1.66)
Board Experience	-0.010	(-0.57)	0.008	(0.75)	0.018	0.76	-0.010	(-0.54)	0.007	(0.65)
CEO Founder	-0.009	(-0.57)	-0.022***	(-3.83)	-0.013	0.66	-0.009	(-0.62)	-0.023***	(-4.03)
CEO Descendant	-0.002	(-0.09)	-0.016**	(-2.29)	-0.014	0.63	-0.005	(-0.30)	-0.016**	(-2.26)
CEO-Chair	-0.017	(-1.01)	0.008	(1.28)	0.025	1.99	-0.015	(-0.92)	0.006	(1.00)
CEO-Group	0.009	(0.62)	0.004	(0.54)	-0.005	0.12	0.013	(0.85)	0.003	(0.42)
BIG 4	0.001	(0.12)	-0.004	(-0.81)	-0.005	0.23	0.007	(0.73)	-0.003	(-0.68)
Audit Partner Tenure	-0.011	(-1.19)	-0.008*	(-1.94)	0.003	0.08	-0.014	(-1.53)	-0.008*	(-1.80)

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**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.1: An Impact of Ownership of Executive Directors on Discretionary Accruals– before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+1}$ ) include discretionary accruals from cross-sectional Jones model (DA1) and from cross-sectional modified Jones model (DA2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA1				Equality Test (Model 5.10)		DA2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Firm Size	-0.002	(-0.45)	-0.016***	(-7.15)	-0.014***	9.73***	-0.001	(-0.21)	-0.015***	(-6.58)
Firm Age	-0.021**	(-2.45)	-0.019***	(-3.78)	0.002	0.04	-0.022**	(-2.51)	-0.020***	(-3.98)
Firm Growth	-0.008	(-0.78)	0.005	(0.74)	0.013	1.15	-0.013	(-1.13)	0.010	(1.29)
Leverage	0.113***	(4.48)	0.109***	(7.82)	-0.004	0.02	0.101***	(3.77)	0.107***	(7.56)
Constant	0.021	(0.33)	0.233***	(5.07)			0.047	(0.73)	0.224***	(4.95)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	801		2,190				774		2,148	
Adj. R-squared	0.093		0.108				0.074		0.104	
F-test	2.981		7.138				2.309		6.672	
p_value	0.000		0.000				0.003		0.000	

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.2: An Impact of Ownership of Executive Directors on Discretionary Revenues – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reform. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5											
	DR1				Equality Test (Model 5.10)		DR2				Equality Test (Model 5.10)	
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)
	<i>t</i>	<i>t</i>					<i>t</i>	<i>t</i>	<i>t</i>	<i>t</i>		
Manager Own	0.017*	(1.95)	-0.022***	(-4.94)	-0.039***	15.56***	0.014**	(1.97)	-0.010***	(-2.60)	-0.024***	8.95***
Share Difference	0.003	(0.73)	-0.003	(-1.07)	-0.006	1.47	0.007*	(1.95)	-0.002	(-0.94)	-0.009**	4.52**
CV	0.004	(0.82)	0.002	(0.50)	-0.002	0.13	0.004	(0.89)	0.002	(0.52)	-0.002	0.17
Board Size	-0.014***	(-2.84)	0.000	(-0.06)	0.014*	3.69*	-0.012***	(-3.02)	-0.006	(-1.61)	0.006	1.51
Board Independence	0.000	(-0.01)	0.009	(1.34)	0.009	0.31	-0.005	(-0.44)	-0.001	(-0.10)	0.004	0.13
Board Experience	0.000	(0.02)	-0.010**	(-2.43)	-0.010	2.24	0.004	(0.88)	-0.007**	(-2.21)	-0.011**	4.06**
CEO Founder	-0.002	(-0.63)	-0.001	(-0.48)	0.001	0.08	0.001	(0.33)	-0.003	(-1.48)	-0.004	1.06
CEO Descendant	-0.004	(-0.80)	0.000	(-0.16)	0.004	0.37	-0.002	(-0.45)	0.000	(0.17)	0.002	0.23
CEO-Chair	-0.002	(-0.34)	-0.003	(-1.02)	-0.001	0.02	-0.001	(-0.16)	0.000	(0.14)	0.001	0.04
CEO-Group	0.001	(0.32)	0.000	(0.11)	-0.001	0.04	0.001	(0.17)	0.000	(-0.14)	-0.001	0.05
BIG 4	-0.005*	(-1.91)	0.000	(-0.12)	0.005	2.20	-0.003*	(-1.72)	-0.001	(-0.70)	0.002	1.00
Audit Partner Tenure	-0.007***	(-2.71)	-0.001	(-0.45)	0.006**	3.98**	-0.004*	(-1.76)	-0.001	(-0.49)	0.003	1.44

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**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.2: An Impact of Ownership of Executive Directors on Discretionary Revenues – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include discretionary revenues from annual revenues model (DR1) and from conditional revenues model (DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{pre} = \beta_{post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DR1				Equality Test (Model 5.10)		DR2			
	Pre- Reform	<i>t</i>	Post- Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre- Reform	<i>t</i>	Post- Reform	<i>t</i>
Firm Size	-0.005***	(-4.23)	-0.006***	(-6.63)	-0.001	0.15	-0.003***	(-2.74)	-0.003***	(-4.61)
Firm Age	-0.006***	(-2.58)	-0.001	(-0.63)	0.005	2.66	-0.004**	(-2.34)	0.000	(0.28)
Firm Growth	0.007	(1.43)	0.006**	(2.03)	-0.001	0.03	0.005	(1.33)	0.004**	(2.12)
Leverage	0.013**	(2.17)	0.013***	(3.37)	0.000	0.00	0.001	(0.23)	0.006**	(1.97)
Constant	0.155***	(8.13)	0.114***	(7.11)			0.109***	(7.31)	0.085***	(6.94)
Industry Dummy	Yes		Yes				Yes		Yes	
No. of Obs.	1,344		2,155				1,343		2,155	
Adj. R-squared	0.072		0.084				0.051		0.064	
F-test	6.372		7.653				4.401		4.925	
p_value	0.000		0.000				0.000		0.000	

**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.3: An Impact of Ownership of Executive Directors on Adjusted Discretionary Accruals – before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5									
	DA2_DR1				Equality Test (Model 5.10)		DA2_DR2			
	Pre-Reform		Post-Reform		Inct. Effect	Wald Test (F)	Pre-Reform		Post-Reform	
		<i>t</i>		<i>t</i>				<i>t</i>		<i>t</i>
Manager Own	0.008	(0.26)	0.004	(0.22)	-0.004	0.01	0.009	(0.30)	0.003	(0.18)
Share Difference	0.007	(0.46)	0.006	(0.79)	-0.001	0.00	0.005	(0.37)	0.006	(0.79)
CV	0.022	(1.21)	0.019**	(2.02)	-0.003	0.02	0.019	(1.03)	0.019**	(2.10)
Board Size	0.031*	(1.92)	0.029**	(2.28)	-0.002	0.02	0.031*	(1.87)	0.030**	(2.41)
Board Independence	0.030	(0.56)	0.028	(1.56)	-0.002	0.00	0.029	(0.54)	0.030*	(1.68)
Board Experience	-0.010	(-0.59)	0.007	(0.70)	0.017	0.75	-0.010	(-0.54)	0.008	(0.74)
CEO Founder	-0.008	(-0.53)	-0.022***	(-3.98)	-0.014	0.82	-0.008	(-0.54)	-0.023***	(-4.04)
CEO Descendant	-0.006	(-0.34)	-0.016**	(-2.25)	-0.010	0.26	-0.007	(-0.40)	-0.016**	(-2.30)
CEO-Chair	-0.016	(-1.03)	0.006	(1.02)	0.022	1.80	-0.017	(-1.09)	0.007	(1.05)
CEO-Group	0.013	(0.89)	0.003	(0.41)	-0.010	0.41	0.013	(0.90)	0.003	(0.46)
BIG 4	0.008	(0.83)	-0.003	(-0.62)	-0.011	1.05	0.006	(0.68)	-0.003	(-0.68)
Audit Partner Tenure	-0.014	(-1.55)	-0.007*	(-1.78)	0.007	0.47	-0.013	(-1.39)	-0.008*	(-1.92)

(This table is continued on the next page)



**Table 5.15: An Impact of Managerial Ownership on Managers' Accounting Discretion – before and after the Corporate Governance Reforms (Cont')****Panel B.3: An Impact of *Ownership of Executive Directors* on *Adjusted Discretionary Accruals* – before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to investigate an impact of managerial ownership (Executive directors) on managers' accounting discretion (Model 5.5) before and after the corporate governance reforms. All variables definitions are presented in Table 5.4. t-statistics for two-tails test based on robust standards errors are reported in parentheses. Dependent variables ( $AD_{i,t+j}$ ) include adjusted discretionary accruals from cross-sectional modified Jones model adjusted by discretionary revenues from annual revenues model (DA2\_DR1) and by discretionary revenues from conditional revenues model (DA2\_DR2). A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 5.5											
	DA2 DR1				Equality Test (Model 5.10)		DA2 DR2				Equality Test (Model 5.10)	
	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)	Pre-Reform	<i>t</i>	Post-Reform	<i>t</i>	Inct. Effect	Wald Test (F)
Firm Size	0.000	(-0.10)	-0.015***	(-6.59)	-0.015***	9.72***	-0.001	(-0.21)	-0.015***	(-6.58)	-0.014***	9.03***
Firm Age	-0.022**	(-2.55)	-0.020***	(-3.95)	0.002	0.07	-0.021**	(-2.47)	-0.020***	(-3.94)	0.001	0.03
Firm Growth	-0.012	(-1.06)	0.009	(1.28)	0.021	2.54	-0.012	(-1.09)	0.009	(1.25)	0.021	2.56
Leverage	0.095***	(3.70)	0.107***	(7.57)	0.012	0.16	0.101***	(3.79)	0.107***	(7.60)	0.006	0.04
Constant	0.040	(0.62)	0.227***	(5.04)			0.046	(0.72)	0.222***	(4.92)		
Industry Dummy	Yes		Yes				Yes		Yes			
No. of Obs.	774		2,148				774		2,148			
Adj. R-squared	0.072		0.104				0.074		0.104			
F-test	2.306		6.648				2.302		6.680			
p_value	0.003		0.000				0.003		0.000			

#### ***5.5.3.5.4 The Impact of Other Corporate Governance Mechanisms on Managers' Accounting Discretion***

Regarding  $H_{a14}$  to  $H_{a22}$ , the impacts of other corporate governance mechanisms and economic determinants on discretionary accruals and revenues for both sub-periods are consistent between different models (Models 5.1 to 5.5). Therefore, this analysis focuses on Model 5.3 in Panels A.1 to A.3, Table 5.14.

Firstly, a significant positive relationship is shown between the ratios of share difference between the largest and the second largest shareholders and discretionary revenues (DR2), but only before the reforms, which may imply that a large difference in the proportion of shares held by the largest and the second largest shareholders limited the ability of the second largest shareholders to monitor financial reporting. Nevertheless, the role of the second largest shareholders seems to have disappeared after the reforms.

Additionally, the evidence suggests that low ratios of cash flow rights to voting rights (CV) did restrain managers to engage in accounting discretion over accruals both before and after the reforms. However, there is no significant relationship between CV and discretionary revenues. While this implies that firms may benefit from the “positive group synergies” that are derived from pyramidal and cross-shareholding structures (Bennedsen and Nielsen, 2010:2220), it contradicts the view that a wide separation of cash flows and control rights is the source of entrenchment (Fan and Wong, 2002).

Secondly, the evidence suggests that larger boards tended to consistently facilitate the use of accounting discretion over accruals both before and after the reforms. This evidence of the inefficiency of large boards in inhibiting the use of accounting discretion is consistent with Ghosh et al. (2010), who found that firms with larger boards tended to engage in earnings management in the US, even after the release of the SOX, 2002. However, larger boards tended to limit the use of accounting discretion over revenues both before and after the reforms.

Thirdly, the evidence suggests that a high proportion of independent directors did significantly facilitate the use of accounting discretion over accruals after the reforms.

Fourthly, high proportions of experienced board members appear to have limited the use of accounting discretion over revenues after the reforms. In addition, the equality test ( $H_{a37}$ ) also shows the significantly negative incremental effects of board experience on discretionary revenues, measured by all models in the post-reform period. The Wald test also confirms that the impacts of board experience on the discretionary revenues in the pre-reform and the post-reform are significantly different. This finding could imply that board experience is an important attribute to increase the board efficiency to detect/prevent the use of accounting discretion over revenues after the reforms.

Overall, the evidence provides some suggestion of inefficiency in board structures and reveals that the reforms, which emphasised their role, may not have significantly improved their efficiency. It also suggests that directors' experience and firm-specific knowledge, rather than just their independence, might be an important contributor to their efficiency in mitigating the use of managers' accounting discretion (for examples, see Abdul Rahman, 2006; Hashim and Devi, 2009; Park and Shin, 2004).

Fifthly, the evidence reveals that on average firms with founders or their descendants as CEOs appear to have used less discretionary accruals after the reforms, which may imply that attitudes such as loyalty or concern for a family's reputation were strong enough to align their interests with those of firms, even after the reforms.

Finally, regarding auditor reputation and expertise, the evidence suggests that long audit tenure appears to have limited the use of managers' accounting discretion over accruals (DA1, DA2\_DR2) only after the reforms. Nevertheless, the equality test ( $H_{a43}$ ) shows the negative but insignificant incremental effects of auditor-partner tenure on the discretionary revenues in the post-reform period. The Wald test also confirms that the impacts of auditor-partner tenure on the discretionary accruals in the pre-reform and the post-reform are not significantly different.

Regarding discretionary revenues, the evidence suggests that long audit tenure appears to have limited the use of managers' accounting discretion over revenues, measured by all models only before the reforms. The equality test ( $H_{a43}$ ) shows the significantly negative incremental effects of auditor-partner tenure on the discretionary revenues (DR1) in the post-reform period. The Wald test also confirms that the impacts of auditor-partner tenure on the discretionary revenues in the pre-reform and the post-reform periods are significantly different. This finding could imply that the less efficiency of the auditors to detect the use of accounting discretion over revenues after the reforms. Therefore, this evidence cast doubts on the requirement of auditor-partner rotation for every five years after the reforms.

## **5.6 Sensitivity Analysis**

### **5.6.1 Additional Control Variables**

The main analysis from the previous sections used unsigned discretionary accruals and discretionary revenue to measure the magnitude of accounting discretion. Hribar and Nichols (2007: 1049) found that the means of absolute discretionary accruals were correlated with the standard deviation of signed discretionary accruals. Therefore, omitted variables that might be correlated with variance in residuals from accruals-based models may result in estimation bias if a researcher uses unsigned discretionary accruals instead of signed discretionary accruals in the tests. In order to mitigate this potential problem, variables that may have influenced the variances (firms' underlying operating volatility, such as cash flows volatility) should be included in the test using unsigned discretionary accruals. Hribar and Nichols (2007) suggest that accruals volatility relies on cash flow volatility. Therefore, cash flow volatility, measured by a three-year-ahead median of the standard deviation of cash flows from operations, scaled by the previous year's total assets ( $\sigma\text{CFO}$ ), was used as another control variable.

Additionally, the literature discussed in previous sections suggests that accruals-based models, such as the Jones model or modified Jones model, might be a misspecification, especially in the case of firms with extreme performance, partly because of the

relationship between discretionary accruals and firm performance (Kothari et al., 2005). This may imply that accounting discretion is influenced by firm performance, which leads to unequal errors across firms (Kothari et al., 2005; Hribar and Nichols, 2007). Therefore, the current return on assets ( $ROA_t$ ) was included as another control variable, and all regressions on discretionary accruals<sup>3</sup> and discretionary revenues were re-estimated with the additional control variables. The results of Models 5.1 to 5.5 for the full sample and sub-period samples are shown in Table 5.16, Panels A, B and C, and Table 5.17, Panels A to F.

Overall, the results show that the ROA and  $\sigma$ CFO did influence the use of accounting discretion, as suggested by the literature. Hence most of the results from Tables 5.16 and 5.17 show that the coefficients of  $ROA_t$  are negatively related to unsigned discretionary accruals but not to unsigned discretionary revenues, implying that, on average, firms with lower performance were more likely to exercise accounting discretion over accruals. In addition, most of coefficients of  $\sigma$ CFO are significantly and positively related to unsigned discretionary accruals and discretionary revenues. Consistent with other literature (for example, see Bowen et al. 2008), the evidence suggests that firms with high cash flow volatility (risk) tended to engage more in accounting discretion over the revenues component of accruals as well as other accruals.

Regarding the full sample, the results from Panels A, B and C in Table 5.16 show that most of the significant results reported in Sections 5.5.3.1 to 5.5.3.4 remain unchanged after control for firm performance and cash flow volatility.

Regarding ownership structure, the results in Panel B suggest that the levels of ownership by the largest shareholders who are family appear to have limited unsigned discretionary revenues. However, the presence of dominant family shareholders appears to have a significant positive relationship to the magnitude of discretionary accruals, as measured by all models. The contradictory results imply some conflicts over

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<sup>3</sup> The results of the regressions on adjusted discretionary accruals are similar to those from original accruals-based models and are not presented here.

discretionary accruals by dominant family shareholders. Additionally, the significant negative effects of the coefficients of government and foreign company ownership on unsigned discretionary accruals, measured by the modified Jones models and adjusted models, disappear after being controlled for the ROA and  $\sigma$ CFO.

Regarding board structure, while the evidence still reveals that board size may limit the use of accounting discretion over revenues, the positive significant relationship between board size and discretionary accruals disappears. In respect to other variables, the results confirm that the presence of CEO founders and more experienced auditors are associated with a lower use of accounting discretion over accruals.

Regarding the sample sub-periods overall, Table 5.17, Panels A to F, show a significant influence from  $\sigma$ CFO on absolute discretionary accruals and discretionary revenue for both sub-periods in most of the models. However, the ROA seems to have had greater influence on the use of accounting discretion for some unsigned discretionary accruals and discretionary (sales) revenue after the reforms. This may imply that listed firms with poor performance were likely to exercise more accounting discretion after the reforms, which may be because there were many more restrictions and regulations on corporate governance after the reforms, increasing the motivation for firms to engage in accounting discretion in order to avoid reporting large losses (Charoenwong and Jiraporn, 2009).

Regarding the main variables, the results confirm that levels of ownership had a strong influence on the motivation of the largest shareholders, especially family, to inhibit accounting discretion over accruals before the reforms and over revenues after them. Additionally, larger boards tended to limit the use of discretionary revenues before the reforms but to facilitate the use of discretionary accruals after the reforms. In respect to other variables, the results confirm that the presence of a CEO founder and more experienced auditors were more influential in limiting the use of accounting discretion over accruals after the reforms.

In conclusion, the results after controlling for the ROA and  $\sigma$ CFO are not much different from those without these variables in terms of other corporate governance mechanisms. However, these additional control variables do affect the significant results of ownership variables, suggesting that it would be better for researchers to control for these variables in tests for accounting discretion.

Table 5.16: Sensitivity Test – Additional Control Variables – Full Sample

**Panel A: An Impact of Ownership Concentration (Model 5.1), the Presence of Dominant Shareholders (Model 5.2) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.1						Model 5.2					
	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.
Concentrated Own /D_Dominant	0.005	-0.003	-0.009	-0.006	-0.004	-0.004	0.009*	0.008	0.001	0.001	0.008	0.008
Share Difference	-0.002	-0.002	0.000	0.002	-0.001	-0.001	-0.006	-0.009	-0.004	-0.002	-0.008	-0.008
CV	0.009	0.007	-0.002	0.001	0.006	0.006	0.009	0.008	-0.001	0.001	0.008	0.007
Board Size	0.011	0.009	-0.006	-0.006**	0.009	0.009	0.011	0.009	-0.006	-0.006**	0.009	0.009
Board Independence	0.018	0.022	0.001	-0.001	0.021	0.021	0.017	0.021	0.001	-0.002	0.020	0.020
Board Experience	-0.007	-0.007	-0.004	-0.003	-0.007	-0.006	-0.007	-0.007	-0.004	-0.003	-0.007	-0.006
CEO Founder	-0.009*	-0.009**	-0.002	-0.004**	-0.009*	-0.009*	-0.009*	-0.009*	-0.001	-0.004**	-0.009*	-0.009*
CEO Descendant	0.001	0.000	-0.001	-0.001	0.000	-0.001	0.000	-0.001	-0.001	-0.001	-0.001	-0.001
CEO-Chair	0.004	0.005	-0.002	0.001	0.005	0.005	0.005	0.005	-0.002	0.001	0.005	0.005
CEO-Group	0.001	0.004	0.001	0.001	0.004	0.004	0.001	0.003	0.001	0.001	0.003	0.004
BIG 4	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001
Audit Partner Tenure	-0.009**	-0.009**	-0.001	-0.001	-0.009**	-0.009**	-0.009**	-0.009**	-0.001	-0.001	-0.009**	-0.009**
Firm Size	-0.007***	-0.007***	-0.005***	-0.003***	-0.007***	-0.007***	-0.007***	-0.007***	-0.005***	-0.003***	-0.007***	-0.007***
Firm Age	-0.006	-0.007*	-0.002	-0.002	-0.007*	-0.007*	-0.006	-0.007*	-0.002	-0.002	-0.007*	-0.007
Firm Growth	0.008	0.009	0.004	0.003	0.009	0.008	0.008	0.009	0.004	0.003*	0.009	0.009
Leverage	0.052***	0.049***	0.003	0.002	0.049***	0.049***	0.051***	0.048***	0.003	0.002	0.048***	0.048***
$\sigma$ CFO	0.359***	0.358***	0.017**	0.002	0.356***	0.360***	0.360***	0.359***	0.018**	0.002	0.357***	0.361***
ROA <sub><i>t</i></sub>	-0.058**	-0.063**	-0.007	0.005	-0.062**	-0.063**	-0.062**	-0.067**	-0.008	0.004	-0.066**	-0.067**
Constant	0.140***	0.147***	0.133***	0.094***	0.148***	0.148***	0.140***	0.145***	0.130***	0.092***	0.146***	0.146***
No. of Obs.	3,021	2,950	3,072	3,070	2,950	2,950	3,021	2,950	3,072	3,070	2,950	2,950
Adj. R-squared	0.308	0.294	0.073	0.055	0.293	0.296	0.309	0.295	0.072	0.055	0.293	0.297
F-test	14.033	13.226	5.811	4.337	13.271	13.420	14.194	13.426	5.854	4.466	13.479	13.624
p_value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.



Table 5.16: Sensitivity Test – Additional Control Variables – Full Sample (Cont')

**Panel B: An Impact of Ownership Concentration by Types of Shareholder (Model 5.3), the Presence of Dominant Shareholders by Types of Shareholder (Model 5.4) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.3						Model 5.4					
	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.
Family	0.006	-0.005	-0.019***	-0.013***	-0.004	-0.005	0.011*	0.010*	-0.002	-0.001	0.010*	0.010*
Government	-0.020	-0.020	0.007	0.002	-0.021	-0.022	-0.003	0.001	0.006	0.002	0.001	0.000
Foreign	0.009	0.003	0.007	0.005	0.003	0.003	0.007	0.007	0.007**	0.005**	0.007	0.007
Domestic	0.007	-0.010	-0.008	-0.015*	-0.009	-0.009	0.003	0.001	0.003	0.001	0.001	0.001
Bank	-0.056	-0.078	0.035	0.047	-0.069	-0.073	-0.030**	-0.032**	-0.004	0.003	-0.032**	-0.032**
Non-Bank Fin.Insti.	-0.011	-0.016	-0.041*	-0.016	-0.018	-0.023	0.015	0.010	0.024	0.016	0.010	0.011
Share Difference	-0.002	-0.002	0.004	0.004	-0.002	-0.002	-0.007	-0.010	-0.002	-0.001	-0.009	-0.010
CV	0.010	0.007	-0.004	-0.001	0.006	0.006	0.011	0.009	-0.004	-0.001	0.009	0.009
Board Size	0.012	0.010	-0.008**	-0.007***	0.010	0.010	0.012	0.010	-0.007*	-0.007**	0.010	0.010
Board Independence	0.018	0.021	-0.001	-0.002	0.021	0.021	0.018	0.022	-0.001	-0.002	0.021	0.021
Board Experience	-0.005	-0.005	-0.003	-0.003	-0.005	-0.004	-0.006	-0.007	-0.004	-0.003	-0.007	-0.006
CEO Founder	-0.009*	-0.010*	0.000	-0.003*	-0.009*	-0.009*	-0.010*	-0.009**	0.000	-0.003*	-0.009*	-0.009*
CEO Descendant	0.001	0.000	0.000	0.000	0.000	-0.001	-0.001	-0.002	0.000	0.000	-0.002	-0.002
CEO-Chair	0.004	0.005	-0.001	0.002	0.005	0.005	0.004	0.005	-0.001	0.002	0.004	0.004
CEO-Group	0.001	0.004	0.002	0.002	0.004	0.004	0.001	0.004	0.003	0.002	0.004	0.004
BIG 4	-0.002	-0.001	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	-0.002	0.000	-0.001
Audit Partner Tenure	-0.009**	-0.009**	-0.001	-0.001	-0.009**	-0.009**	-0.009**	-0.009**	-0.001	-0.001	-0.009**	-0.009**

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

(This table is continued on the next pages)

Table 5.16: Sensitivity Test – Additional Control Variables – Full Sample (Cont')

**Panel B: An Impact of Ownership Concentration by Types of Shareholder (Model 5.3), the Presence of Dominant Shareholders by Types of Shareholder (Model 5.4) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables (Cont')**

Explanatory Variables	Model 5.3						Model 5.4					
	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA2_DR1 Coef.	DA2_DR2 Coef.
Firm Size	-0.007***	-0.007***	-0.006***	-0.003***	-0.007***	-0.007***	-0.007***	-0.007***	-0.005***	-0.003***	-0.007***	-0.007***
Firm Age	-0.007	-0.007*	-0.003**	-0.002*	-0.008*	-0.007*	-0.006	-0.006	-0.003*	-0.002*	-0.006	-0.006
Firm Growth	0.008	0.009	0.004	0.003	0.009	0.008	0.008	0.009	0.004	0.003*	0.009	0.009
Leverage	0.052***	0.050***	0.005	0.003	0.049***	0.050***	0.051***	0.048***	0.004	0.002	0.047***	0.048***
$\sigma$ CFO	0.359***	0.359***	0.018***	0.003	0.357***	0.361***	0.359***	0.358***	0.019***	0.003	0.356***	0.360***
ROA <sub><i>t</i></sub>	-0.058**	-0.062**	-0.006	0.005	-0.062**	-0.062**	-0.061**	-0.067**	-0.008	0.004	-0.067**	-0.067**
Constant	0.139***	0.150***	0.148***	0.102***	0.150***	0.151***	0.133***	0.140***	0.138***	0.096***	0.140***	0.140***
No. of Obs.	3,021	2,950	3,072	3,070	2,950	2,950	3,021	2,950	3,072	3,070	2,950	2,950
Adj. R-squared	0.308	0.293	0.079	0.060	0.292	0.295	0.309	0.295	0.077	0.057	0.293	0.296
F-test	12.445	11.606	5.812	4.174	11.645	11.788	12.767	12.058	5.715	4.147	12.102	12.218
p_value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.16: Sensitivity Test – Additional Control Variables – Full Sample (Cont')****Panel C: An Impact of Managerial Ownership (Model 5.5) on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.5							
	All Directors				Executive Directors			
	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.	DA1 Coef.	DA2 Coef.	DR1 Coef.	DR2 Coef.
Manager Own	-0.002	-0.001	-0.008**	-0.003	0.005	0.010	-0.013***	-0.003
Share Difference	0.001	-0.003	-0.001	0.000	0.000	-0.004	-0.003	-0.001
CV	0.009	0.007	-0.002	0.001	0.008	0.007	-0.001	0.001
Board Size	0.011	0.009	-0.006*	-0.006**	0.011	0.009	-0.005	-0.006**
Board Independence	0.018	0.022	0.000	-0.002	0.018	0.022	0.001	-0.001
Board Experience	-0.007	-0.007	-0.004	-0.003	-0.007	-0.007	-0.005	-0.003
CEO Founder	-0.009*	-0.009*	0.000	-0.004**	-0.010*	-0.010**	0.000	-0.004**
CEO Descendant	0.001	0.000	-0.001	0.000	0.000	-0.001	0.000	0.000
CEO-Chair	0.004	0.005	-0.002	0.001	0.004	0.005	-0.002	0.001
CEO-Group	0.001	0.004	0.002	0.001	0.001	0.004	0.001	0.001
BIG 4	-0.002	-0.001	-0.002	-0.001	-0.002	-0.001	-0.001	-0.001
Audit Partner Tenure	-0.009**	-0.009**	-0.001	-0.001	-0.009**	-0.009**	-0.001	-0.001
Firm Size	-0.007***	-0.007***	-0.005***	-0.003***	-0.007***	-0.007***	-0.005***	-0.003***
Firm Age	-0.006	-0.007*	-0.003*	-0.002*	-0.006	-0.007*	-0.003*	-0.002
Firm Growth	0.008	0.009	0.004	0.003	0.008	0.009	0.004	0.003
Leverage	0.052***	0.049***	0.004	0.002	0.052***	0.049***	0.004	0.002
$\sigma$ CFO	0.359***	0.358***	0.018**	0.002	0.359***	0.357***	0.018**	0.002
ROA <sub><i>t</i></sub>	-0.057**	-0.063**	-0.006	0.005	-0.058**	-0.063**	-0.008	0.005
Constant	0.143***	0.147***	0.137***	0.095***	0.142***	0.146***	0.130***	0.092***
No. of Obs.	3,021	2,950	3,072	3,070	3,021	2,950	3,072	3,070
Adj. R-squared	0.308	0.294	0.074	0.055	0.308	0.294	0.075	0.055
F-test	13.865	13.129	5.892	4.353	13.907	13.224	5.851	4.326
p_value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms****Panel A: An Impact of Ownership Concentration (Model 5.1) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.1											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Concentrated	-0.074**	0.017	0.091**	-0.091**	0.015	0.106***	0.007	-0.013**	-0.020	0.0001	-0.008	-0.008
Share Difference	0.052**	-0.012	-0.064***	0.054**	-0.012	-0.066***	-0.005	0.001	0.006	0.003	0.002	-0.001
CV	0.018	0.004	-0.014	0.006	0.006	0.000	0.004	-0.002	-0.006	0.007*	0.000	-0.007
Board Size	0.019	0.020*	0.001	0.010	0.020	0.010	-0.012**	-0.001	0.011	-0.008**	-0.004	0.004
Board Independence	-0.004	0.021	0.025	0.002	0.023	0.021	-0.008	0.008	0.016	0.000	0.002	0.002
Board Experience	-0.004	-0.004	0.000	-0.003	-0.004	-0.001	-0.002	-0.007*	-0.005	0.003	-0.006*	-0.009
CEO Founder	-0.002	-0.011**	-0.009	-0.001	-0.013**	-0.012	0.001	-0.002	-0.003	0.001	-0.004**	-0.005
CEO Descendant	0.002	-0.002	-0.004	-0.004	-0.003	0.001	0.005	-0.002	-0.007	0.003	-0.001	-0.004
CEO-Chair	-0.011	0.010*	0.021	-0.006	0.009	0.015	-0.004	-0.002	0.002	-0.003	0.001	0.004
CEO-Group	0.007	0.004	-0.003	0.015	0.004	-0.011	0.006	0.000	-0.006	0.005	0.000	-0.005
BIG 4	0.004	-0.004	-0.008	0.009	-0.004	-0.013	-0.002	0.000	0.002	-0.001	0.000	0.001
Audit Partner												
Tenure	-0.009	-0.007*	0.002	-0.011	-0.006	0.005	-0.006*	0.000	0.006*	-0.002	0.000	0.002
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.008***	-0.004	-0.002*	-0.005***	-0.003*	-0.002*	-0.003***	-0.001
Firm Age	-0.011	-0.008	0.003	-0.012	-0.009*	0.003	-0.004	0.000	0.004	-0.004*	0.000	0.004*
Firm Growth	0.003	0.008	0.005	-0.003	0.012	0.015	0.001	0.008**	0.007	0.002	0.005**	0.003
Leverage	0.038	0.050***	0.012	0.023	0.053***	0.030	-0.004	0.007	0.011	-0.011*	0.008**	0.019***
$\sigma$ CFO	0.286***	0.377***	0.091	0.312***	0.356***	0.044	0.010	0.023**	0.013	0.006	0.003	-0.003
ROA <sub><i>t</i></sub>	-0.047	-0.055*	-0.008	-0.058	-0.052	0.006	0.006	-0.015	-0.021	0.006	0.010	0.004
Constant	0.087	0.113**		0.124**	0.113**		0.113***	0.111***		0.090***	0.085***	
No. of Obs.	754	2,036		730	1,997		839	2,001		838	2,001	
Adj. R-squared	0.205	0.274		0.211	0.250		0.038	0.089		0.044	0.060	
F-test	4.243	9.695		4.874	8.426		2.426	6.111		2.251	3.863	
p_value	0.000	0.000		0.000	0.000		0.001	0.000		0.002	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont')

**Panel B: An Impact of the Presence of Dominant Shareholders (Model 5.2) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.2											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
D_Dominant	0.015	0.005	-0.010	0.015	0.005	-0.010	0.0003	0.0003	0.000	0.002	0.001	-0.001
Share Difference	0.005	-0.007	-0.012	-0.001	-0.008	-0.007	-0.002	-0.005	-0.003	0.001	-0.002	-0.003
CV	0.023	0.003	-0.020	0.014	0.005	-0.009	0.004	-0.001	-0.005	0.008*	0.000	-0.008
Board Size	0.021	0.019*	-0.002	0.012	0.019	0.007	-0.012**	-0.001	0.011	-0.008**	-0.004	0.004
Board Independence	-0.001	0.022	0.023	0.005	0.023	0.018	-0.009	0.008	0.017	0.000	0.001	0.001
Board Experience	-0.007	-0.005	0.002	-0.007	-0.005	0.002	-0.001	-0.007*	-0.006	0.003	-0.006*	-0.009
CEO Founder	-0.002	-0.012**	-0.010	-0.001	-0.013***	-0.012	0.001	-0.002	-0.003	0.001	-0.004*	-0.005
CEO Descendant	0.003	-0.002	-0.005	-0.001	-0.002	-0.001	0.005	-0.002	-0.007	0.003	-0.001	-0.004
CEO-Chair	-0.009	0.010*	0.019	-0.005	0.009	0.014	-0.004	-0.002	0.002	-0.002	0.001	0.003
CEO-Group	0.004	0.004	0.000	0.011	0.004	-0.007	0.006	0.000	-0.006	0.005	-0.001	-0.006
BIG 4	0.002	-0.003	-0.005	0.005	-0.004	-0.009	-0.002	0.000	0.002	-0.001	0.000	0.001
Audit Partner												
Tenure	-0.010	-0.007*	0.003	-0.011	-0.006	0.005	-0.006*	0.000	0.006*	-0.002	0.000	0.002
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.008***	-0.004	-0.002*	-0.005***	-0.003	-0.002*	-0.003***	-0.001
Firm Age	-0.009	-0.008	0.001	-0.010	-0.009*	0.001	-0.004	0.000	0.004	-0.004*	0.000	0.004*
Firm Growth	0.004	0.008	0.004	-0.003	0.012	0.015	0.001	0.008**	0.007	0.002	0.005**	0.003
Leverage	0.034	0.050***	0.016	0.019	0.053***	0.034	-0.004	0.006	0.010	-0.011**	0.007**	0.018***
$\sigma$ CFO	0.290***	0.378***	0.088	0.316***	0.356***	0.040	0.010	0.023**	0.013	0.007	0.003	-0.004
ROA <sub><i>t</i></sub>	-0.046	-0.055*	-0.009	-0.057	-0.053	0.004	0.006	-0.017	-0.023	0.006	0.008	0.002
Constant	0.062	0.117***		0.095	0.117***		0.116***	0.107***		0.090***	0.083***	
No. of Obs.	754	2,036		730	1,997		839	2,001		838	2,001	
Adj. R-squared	0.202	0.273		0.206	0.249		0.038	0.087		0.044	0.060	
F-test	4.269	9.733		4.694	8.470		2.426	6.147		2.281	3.963	
p_value	0.000	0.000		0.000	0.000		0.001	0.000		0.002	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont')**

**Panel C: An Impact of Ownership Concentration by Types of Shareholder (Model 5.3) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables**

Explanatory Variables	Model 5.3											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Family Own	-0.039	0.018	0.057*	-0.060*	0.015	0.075**	-0.010	-0.022***	-0.012	-0.010	-0.014***	-0.004
Government Own	-0.082	-0.018	0.064	-0.072	-0.021	0.051	-0.011	0.010	0.021	-0.003	0.003	0.006
Foreign Company Own	-0.031	0.015	0.046	-0.040	0.010	0.050	0.022	-0.003	-0.025	0.015	0.001	-0.014
Domestic Company Own	-0.009	0.003	0.012	-0.023	-0.016	0.007	-0.005	-0.009	-0.004	-0.003	-0.017	-0.014
Bank Own	0.348	-0.127	-0.475*	0.227	-0.133	-0.360	-0.064	0.055	0.119	-0.053	0.060	0.113
Non-Bank Fin. Insti. Own	-0.038	0.030	0.068	-0.032	0.016	0.048	-0.092***	-0.015	0.077	-0.050*	-0.001	0.049
Share Difference	0.032*	-0.010	-0.042	0.033*	-0.011	-0.044**	0.002	0.003	0.001	0.007	0.003	-0.004
CV	0.027	0.005	-0.022	0.011	0.006	-0.005	0.004	-0.004	-0.008	0.007	-0.003	-0.010*
Board Size	0.020	0.023*	0.003	0.012	0.023*	0.011	-0.013**	-0.004	0.009	-0.008**	-0.006	0.002
Board Independence	-0.005	0.022	0.027	0.002	0.024	0.022	-0.011	0.007	0.018	-0.001	0.001	0.002
Board Experience	-0.010	-0.002	0.008	-0.006	-0.002	0.004	0.003	-0.007	-0.010	0.006	-0.006*	-0.012*
CEO Founder	-0.001	-0.012**	-0.011	-0.001	-0.014***	-0.013	0.001	-0.001	-0.002	0.001	-0.004*	-0.005
CEO Descendant	0.007	-0.003	-0.010	0.000	-0.004	-0.004	0.005	-0.001	-0.006	0.003	0.000	-0.003
CEO-Chair	-0.009	0.009	0.018	-0.004	0.008	0.012	-0.004	-0.001	0.003	-0.003	0.002	0.005
CEO-Group	0.005	0.004	-0.001	0.014	0.003	-0.011	0.006	0.001	-0.005	0.005	0.000	-0.005
BIG 4	0.001	-0.003	-0.004	0.006	-0.003	-0.009	-0.003	-0.001	0.002	-0.002	-0.001	0.001
Audit Partner Tenure	-0.006	-0.006	0.000	-0.009	-0.005	0.004	-0.005*	0.000	0.005	-0.002	-0.001	0.001

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

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**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont')**

**Panel C: An Impact of Ownership Concentration by Types of Shareholder (Model 5.3) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion with Additional Variables (Cont')**

Explanatory Variables	Model 5.3											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.008***	-0.004	-0.003**	-0.005***	-0.002	-0.003**	-0.003***	0.000
Firm Age	-0.010	-0.008	0.002	-0.012	-0.009*	0.003	-0.006**	0.000	0.006*	-0.006**	0.000	0.006**
Firm Growth	0.001	0.008	0.007	-0.004	0.012	0.016	0.001	0.007**	0.006	0.003	0.005**	0.002
Leverage	0.038	0.051***	0.013	0.024	0.054***	0.030	-0.002	0.007	0.009	-0.009	0.007**	0.016***
$\sigma$ CFO	0.281***	0.377***	0.096*	0.308***	0.356***	0.048	0.011	0.025**	0.014	0.008	0.004	-0.004
ROA <sub><i>t</i></sub>	-0.051	-0.055*	-0.004	-0.062	-0.052	0.010	0.003	-0.013	-0.016	0.004	0.011	0.007
Constant	0.069	0.106**		0.112	0.107**		0.140***	0.124***		0.106***	0.094***	
No. of Obs.	754	2,036		730	1,997		839.000	2001.000		838.000	2001.000	
Adj. R-squared	0.203	0.274		0.206	0.250		0.048	0.094		0.048	0.065	
F-test	3.629	8.015		4.081	6.870		2.495	5.759		2.037	3.457	
p_value	0.000	0.000		0.000	0.000		0.000	0.000		0.003	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont’)**

**Panel D: An Impact of the Presence of Dominant Shareholders by Types of Shareholder (Model 5.4) and Other Corporate Governance Mechanisms on Managers’ Accounting Discretion *with Additional Variables***

Explanatory Variables	Model 5.4											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
D_Family	0.019	0.007	-0.012	0.017	0.008	-0.009	-0.002	-0.003	-0.001	-0.0002	-0.001	-0.001
D_Government	0.006	-0.009	-0.015	0.014	-0.008	-0.022	-0.003	0.010*	0.013	0.002	0.002	0.000
D_Foreign	0.008	0.004	-0.004	0.012	0.003	-0.009	0.008	0.006	-0.002	0.007	0.005	-0.002
D_Domestic	0.062	-0.015	-0.077**	0.058*	-0.017	-0.075**	0.004	0.003	-0.001	0.005	0.000	-0.005
D_Bank	0.000	-0.032**	-0.032	0.000	-0.034**	-0.034	0.000	-0.004	-0.004	0.000	0.003	0.003
D_Non-Bank Fin. Insti.	-0.002	0.043	0.045	-0.007	0.032	0.039	-0.003	0.044*	0.047*	-0.001	0.026	0.027
Share Difference	0.000	-0.008	-0.008	-0.005	-0.010	-0.005	0.000	-0.003	-0.003	0.003	-0.001	-0.004
CV	0.029*	0.004	-0.025	0.019	0.006	-0.013	0.003	-0.004	-0.007	0.006	-0.002	-0.008
Board Size	0.022	0.022*	0.000	0.013	0.022*	0.009	-0.012**	-0.004	0.008	-0.008**	-0.005	0.003
Board Independence	-0.003	0.023	0.026	0.004	0.025	0.021	-0.009	0.004	0.013	0.000	0.000	0.000
Board Experience	-0.004	-0.004	0.000	-0.003	-0.004	-0.001	0.000	-0.007*	-0.007	0.004	-0.006*	-0.010
CEO Founder	-0.004	-0.012**	-0.008	-0.003	-0.014***	-0.011	0.001	0.000	-0.001	0.001	-0.003	-0.004
CEO Descendant	0.003	-0.003	-0.006	-0.001	-0.004	-0.003	0.005	-0.001	-0.006	0.004	-0.001	-0.005
CEO-Chair	-0.008	0.009	0.017	-0.004	0.008	0.012	-0.003	-0.001	0.002	-0.002	0.002	0.004
CEO-Group	0.002	0.005	0.003	0.009	0.004	-0.005	0.007	0.002	-0.005	0.005	0.000	-0.005
BIG 4	0.001	-0.003	-0.004	0.004	-0.003	-0.007	-0.002	-0.001	0.001	-0.002	-0.001	0.001
Audit Partner Tenure	-0.009	-0.006	0.003	-0.011	-0.005	0.006	-0.005*	0.000	0.005	-0.002	0.000	0.002

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

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**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont')**

**Panel D: An Impact of the Presence of Dominant Shareholders by Types of Shareholder (Model 5.4) and Other Corporate Governance Mechanisms on Managers' Accounting Discretion *with Additional Variables* (Cont')**

Explanatory Variables	Model 5.4											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.008***	-0.004	-0.003**	-0.005***	-0.002	-0.002**	-0.003***	-0.001
Firm Age	-0.010	-0.008	0.002	-0.011	-0.008	0.003	-0.005*	0.000	0.005	-0.005**	0.000	0.005*
Firm Growth	0.003	0.007	0.004	-0.003	0.012	0.015	0.001	0.007**	0.006	0.003	0.004**	0.001
Leverage	0.034	0.050***	0.016	0.020	0.052***	0.032	-0.003	0.007	0.010	-0.011*	0.008**	0.019***
$\sigma$ CFO	0.287***	0.377***	0.090	0.313***	0.356***	0.043	0.011	0.024**	0.013	0.008	0.003	-0.005
ROA <sub><i>t</i></sub>	-0.044	-0.056*	-0.012	-0.056	-0.054	0.002	0.004	-0.016	-0.020	0.004	0.009	0.005
Constant	0.064	0.109**		0.101	0.107**		0.120***	0.121***		0.093***	0.089***	
No. of Obs.	754	2,036		730	1,997		839	2,001		838	2,001	
Adj. R-squared	0.201	0.275		0.203	0.251		0.037	0.094		0.043	0.062	
F-test	3.783	8.378		3.998	7.411		2.324	5.870		1.991	3.541	
p_value	0.000	0.000		0.000	0.000		0.001	0.000		0.004	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont’)****Panel E: An Impact of Ownership by all Directors (Model 5.5) on Managers’ Accounting Discretion *with Additional Variables***

Explanatory Variables	Model 5.5- All Directors											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Manager Own	-0.011	0.007	0.018	-0.019	0.009	0.028	0.004	-0.010**	-0.014	-0.003	-0.004	-0.001
Share Difference	0.021	-0.006	-0.027*	0.017	-0.007	-0.024	-0.003	-0.002	0.001	0.004	-0.001	-0.005
CV	0.022	0.003	-0.019	0.013	0.005	-0.008	0.004	-0.002	-0.006	0.008*	0.000	-0.008
Board Size	0.022	0.020*	-0.002	0.013	0.020*	0.007	-0.012**	-0.002	0.010	-0.008**	-0.004	0.004
Board Independence	0.000	0.023	0.023	0.005	0.024	0.019	-0.008	0.007	0.015	0.000	0.001	0.001
Board Experience	-0.008	-0.005	0.003	-0.007	-0.005	0.002	-0.002	-0.007*	-0.005	0.003	-0.006*	-0.009
CEO Founder	0.000	-0.013**	-0.013	0.001	-0.014***	-0.015	0.000	-0.001	-0.001	0.001	-0.004*	-0.005
CEO Descendant	0.005	-0.003	-0.008	0.001	-0.003	-0.004	0.005	-0.001	-0.006	0.004	-0.001	-0.005
CEO-Chair	-0.010	0.010*	0.020	-0.005	0.008	0.013	-0.004	-0.001	0.003	-0.002	0.001	0.003
CEO-Group	0.005	0.004	-0.001	0.012	0.003	-0.009	0.006	0.001	-0.005	0.005	0.000	-0.005
BIG 4	0.002	-0.003	-0.005	0.005	-0.003	-0.008	-0.001	-0.001	0.000	-0.001	-0.001	0.000
Audit Partner												
Tenure	-0.008	-0.007*	0.001	-0.010	-0.006	0.004	-0.006*	0.000	0.006	-0.002	0.000	0.002
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.007***	-0.003	-0.002*	-0.005***	-0.003*	-0.002*	-0.003***	-0.001
Firm Age	-0.010	-0.008	0.002	-0.012	-0.009*	0.003	-0.003	0.000	0.003	-0.004*	0.000	0.004*
Firm Growth	0.003	0.008	0.005	-0.003	0.012	0.015	0.001	0.008**	0.007	0.002	0.005**	0.003
Leverage	0.037	0.050***	0.013	0.023	0.053***	0.030	-0.004	0.007	0.011	-0.011*	0.008**	0.019***
$\sigma$ CFO	0.289***	0.377***	0.088	0.316***	0.356***	0.040	0.009	0.023**	0.014	0.007	0.003	-0.004
ROA <sub><i>t</i></sub>	-0.047	-0.055*	-0.008	-0.060	-0.053	0.007	0.007	-0.014	-0.021	0.006	0.010	0.004
Constant	0.072	0.111**		0.111*	0.109**		0.112***	0.116***		0.092***	0.087***	
No. of Obs.	754	2,036		730	1,997		839	2,001		838	2,001	
Adj. R-squared	0.201	0.273		0.205	0.250		0.038	0.089		0.044	0.060	
F-test	4.203	9.627		4.656	8.380		2.399	6.190		2.247	3.878	
p_value	0.000	0.000		0.000	0.000		0.001	0.000		0.002	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Table 5.17: Sensitivity Test – Additional Control Variables – before and after the Corporate Governance Reforms (Cont')****Panel F: An Impact of Ownership by Executive Directors (Model 5.5) on Managers' Accounting Discretion *with Additional Variables***

Explanatory Variables	Model 5.5- Executive Directors											
	DA1			DA2			DR1			DR2		
	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect	Pre-Reform	Post-Reform	Inct. Effect
Manager Own	-0.0001	0.010	0.010	0.011	0.010	-0.001	0.006	-0.020***	-0.026***	0.007	-0.011***	-0.018**
Share Difference	0.017	-0.005	-0.022	0.010	-0.005	-0.015	-0.002	-0.004	-0.002	0.002	-0.001	-0.003
CV	0.022	0.003	-0.019	0.011	0.004	-0.007	0.004	0.000	-0.004	0.007*	0.000	-0.007
Board Size	0.023	0.020*	-0.003	0.013	0.020	0.007	-0.012**	-0.001	0.011	-0.008**	-0.004	0.004
Board Independence	0.002	0.022	0.020	0.009	0.024	0.015	-0.008	0.007	0.015	0.001	0.001	0.000
Board Experience	-0.009	-0.004	0.005	-0.009	-0.004	0.005	-0.001	-0.008**	-0.007	0.003	-0.006*	-0.009
CEO Founder	-0.001	-0.013**	-0.012	-0.001	-0.014***	-0.013	0.000	0.000	0.000	0.000	-0.003	-0.003
CEO Descendant	0.004	-0.003	-0.007	-0.001	-0.003	-0.002	0.005	-0.001	-0.006	0.003	0.000	-0.003
CEO-Chair	-0.010	0.010*	0.020	-0.005	0.009	0.014	-0.003	-0.002	0.001	-0.002	0.001	0.003
CEO-Group	0.004	0.004	0.000	0.011	0.004	-0.007	0.006	0.000	-0.006	0.005	-0.001	-0.006
BIG 4	0.002	-0.003	-0.005	0.006	-0.004	-0.010	-0.002	0.000	0.002	-0.001	0.000	0.001
Audit Partner Tenure	-0.009	-0.007*	0.002	-0.010	-0.006	0.004	-0.005*	0.000	0.005	-0.002	0.000	0.002
Firm Size	-0.004	-0.008***	-0.004	-0.004	-0.008***	-0.004	-0.002*	-0.005***	-0.003*	-0.002*	-0.003***	-0.001
Firm Age	-0.010	-0.008	0.002	-0.010	-0.009*	0.001	-0.004	0.000	0.004	-0.004*	0.000	0.004
Firm Growth	0.003	0.008	0.005	-0.003	0.012	0.015	0.001	0.008**	0.007	0.003	0.005**	0.002
Leverage	0.036	0.050***	0.014	0.021	0.053***	0.032	-0.004	0.007	0.011	-0.011*	0.008**	0.019***
$\sigma$ CFO	0.288***	0.377***	0.089	0.313***	0.356***	0.043	0.009	0.023**	0.014	0.006	0.002	-0.004
ROA <sub><i>t</i></sub>	-0.045	-0.053	-0.008	-0.057	-0.051	0.006	0.006	-0.016	-0.022	0.006	0.009	0.003
Constant	0.063	0.117***		0.095	0.117***		0.116***	0.108***		0.089***	0.083***	
No. of Obs.	754	2,036		730	1,997		839	2,001		838	2,001	
Adj. R-squared	0.201	0.273		0.204	0.249		0.038	0.092		0.045	0.062	
F-test	4.225	9.656		4.756	8.394		2.526	6.524		2.319	4.115	
p_value	0.000	0.000		0.000	0.000		0.000	0.000		0.001	0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

## 5.6.2 Test for Specification Errors

### 5.6.2.1 *Multicollinearity*

The method of OLS assumes that there is no perfect linear relationship between independent variables (Gujarati, 1995). As discussed in Section 5.5.1, the results from the Pearson and Spearman correlations suggest that there may be imperfect multicollinearity among the independent variables used in the regression models.

In order to test whether the multicollinearity problem is severe in this study, Variance Inflation Factors (VIF) and tolerance ( $1/\text{VIF}$ ) were tested for all independent variables (including year and industry dummies) in all discretionary accruals and discretionary (sales) revenues models<sup>4</sup>. According to Table 5.18, Panel A, the VIFs in all models range between 1 and 4, with mean VIFs between 1 and 3, indicating that the regression models do not seriously suffer from multicollinearity.<sup>5</sup>

### 5.6.2.2 *Endogeneity Test*

The literature suggests that accounting discretion, ownership and characteristics of the board of directors (board size, board independence and board experience) might be endogenous or simultaneous, as determined by unobserved firm-specific heterogeneity (for examples, see Larcker and Rusticus, 2010; Hazarika et al., 2012). The design of this study allows for different periods of accounting discretion and corporate governance structure but may not solve all endogeneity problems. Therefore, the Durbin-Wu-Hausman Test<sup>6</sup> was performed in order to address possible endogeneity using a null hypothesis that variables of ownership and boards of directors are exogenous.

The results from Table 5.18, Panel B, show that the null hypothesis for all discretionary accruals models cannot be rejected, indicating that variables of ownership and boards of

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<sup>4</sup> The VIF tests for adjusted discretionary accruals are not presented here because the results are all similar to those obtained from the original discretionary accruals models.

<sup>5</sup> There is no rule of thumb for the exact threshold of VIF, but existing research typically suggests that the VIF value should be below 10 in order to indicate no serious multicollinearity (O'Brien, 2007).

<sup>6</sup> The Durbin-Wu-Hausman Test (DWH) for endogeneity was performed using the Stata package (command `-ivendog-`).

directors are jointly exogenous in these samples. However, the null hypothesis of exogenous variables is rejected for the conditional discretionary revenue models (DR2). This evidence suggests the presence of the endogeneity problem, which may make the OLS method less efficient.

The existing literature suggests the use of instrumental variables and then the application of simultaneous regressions such as the Two-Stage Least Squares in order to remedy this problem (for examples, see Cho, 1998; Cui and Mark, 2002; Hazarika et al., 2012; Hermalin and Weisbach, 1991). Therefore, Two-Stage Least Squares (2SLS) was performed with instrument variables for the conditional revenues-based model (DR2) in which the endogeneity problem appears. Although Larcker and Rusticus (2010) suggest that it is important to choose instrument variables based on grounded economic theory, it is difficult to find suitable variables from the limited data available. Therefore, lagged variables for all ownership and board of director variables were used as instrument variables, as they have been used in previous research (for examples, see Hermalin and Weisbach, 1991; Larcker and Rusticus, 2010).

Because the data on ownership was only available for 1994 onwards, the sample in this test consisted of firm-year observations from 1995 to 2007. In the first stage, all endogenous variables (all ownership and board of director variables) were regressed separately with all exogenous variables in the system. The simultaneous equation<sup>7</sup> in stage two required at least one instrument variable<sup>8</sup> for all possible endogenous variables. The system of equations is as follows:

$$\text{ENDO} = f(\text{CEO Founder, CEO Son/Daughter, CEO-Chair, CEO-Group, BIG4, Auditor Tenure, Firm Size, Firm Age, Firm Growth, Leverage, Industry dummy, Year dummy, I\_OWN, I\_BOARD})$$

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<sup>7</sup> The numbers of instrument variables must be at least equal to the numbers of possible endogenous variables, in order to allow the models to be properly identified.

<sup>8</sup> Ideally, instrument variables should have no correlation with endogenous variables but be exogenous in the structural equation (Cornett et al., 2009).

Where ENDO is a set of possible endogenous variables (ownership concentration, ownership concentration by shareholder types, managerial ownership, Share Difference, CV, Board Size, Board independence, Board Experience), I\_OWN is a set of lagged ownership variables and I\_BOARD is a set of lagged board of director variables.

Table 5.19 presents the results of the 2SLS for discretionary revenues, most of which are consistent with the previous results of OLS, shown in Section 5.5.3. However, it appears that the significant results for domestic company ownership become insignificant.

**Table 5.18 Test for Model Specification Errors – Full sample**  
**Panel A: Variance Inflation Factors for Independent Variables**

Explanatory Variables	Model 5.1											
	DA1		DA2		DR1		DR2		DA2 DR1		DA2 DR2	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Concentrated Own	2.39	0.418	2.39	0.418	2.37	0.422	2.37	0.422	2.39	0.418	2.39	0.418
Share Difference	2.34	0.427	2.34	0.427	2.30	0.435	2.30	0.435	2.34	0.427	2.34	0.427
CV	1.37	0.731	1.37	0.729	1.36	0.735	1.36	0.735	1.37	0.729	1.37	0.729
Board Size	2.06	0.485	2.06	0.485	2.02	0.494	2.02	0.494	2.06	0.485	2.06	0.485
Board Independence	3.22	0.311	3.20	0.313	3.50	0.286	3.50	0.286	3.20	0.313	3.20	0.313
Board Experience	1.40	0.715	1.40	0.714	1.38	0.725	1.38	0.725	1.40	0.714	1.40	0.714
CEO Founder	1.48	0.676	1.48	0.674	1.50	0.665	1.50	0.665	1.48	0.674	1.48	0.674
CEO Descendant	1.52	0.659	1.50	0.665	1.59	0.627	1.59	0.627	1.50	0.665	1.50	0.665
CEO-Chair	1.47	0.680	1.47	0.679	1.50	0.665	1.50	0.665	1.47	0.679	1.47	0.679
CEO-Group	1.46	0.684	1.45	0.688	1.55	0.646	1.55	0.646	1.45	0.688	1.45	0.688
BIG 4	1.14	0.880	1.14	0.875	1.14	0.879	1.14	0.879	1.14	0.875	1.14	0.875
Audit Partner Tenure	1.18	0.845	1.19	0.842	1.17	0.857	1.17	0.857	1.19	0.842	1.19	0.842
Firm Size	1.63	0.612	1.64	0.608	1.60	0.624	1.60	0.624	1.64	0.608	1.64	0.608
Firm Age	1.25	0.798	1.25	0.800	1.26	0.796	1.26	0.796	1.25	0.800	1.25	0.800
Firm Growth	1.18	0.848	1.19	0.842	1.18	0.851	1.18	0.851	1.19	0.842	1.19	0.842
Leverage	1.26	0.795	1.24	0.806	1.27	0.785	1.27	0.785	1.24	0.806	1.24	0.806
<b>Mean VIF</b>	<b>2.28</b>		<b>2.26</b>		<b>2.01</b>		<b>2.01</b>		<b>2.26</b>		<b>2.26</b>	

Explanatory Variables	Model 5.3											
	DA1		DA2		DR1		DR2		DA2 DR1		DA2 DR2	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Family Own	2.70	0.371	2.72	0.367	2.68	0.373	2.69	0.372	2.72	0.367	2.72	0.367
Government own	1.47	0.678	1.49	0.673	1.42	0.704	1.42	0.704	1.49	0.673	1.49	0.673
Foreign Own	1.71	0.583	1.72	0.580	1.68	0.594	1.68	0.594	1.72	0.580	1.72	0.580
Domestic Own	1.21	0.826	1.20	0.830	1.21	0.824	1.21	0.824	1.20	0.830	1.20	0.830
Bank Own	1.16	0.865	1.14	0.877	1.12	0.889	1.12	0.890	1.14	0.877	1.14	0.877
Non-Bank Fin. Insti. Own	1.13	0.887	1.13	0.883	1.17	0.856	1.17	0.855	1.13	0.883	1.13	0.883
Share Difference	1.62	0.617	1.63	0.614	1.61	0.619	1.61	0.619	1.63	0.614	1.63	0.614
CV	1.43	0.699	1.43	0.698	1.41	0.710	1.41	0.710	1.43	0.698	1.43	0.698
Board Size	2.11	0.474	2.11	0.474	2.06	0.486	2.06	0.486	2.11	0.474	2.11	0.474
Board Independence	3.23	0.309	3.21	0.311	3.51	0.285	3.51	0.285	3.21	0.311	3.21	0.311
Board Experience	1.47	0.682	1.47	0.678	1.44	0.694	1.44	0.694	1.47	0.678	1.47	0.678
CEO Founder	1.53	0.652	1.54	0.651	1.56	0.642	1.56	0.642	1.54	0.651	1.54	0.651
CEO Descendant	1.55	0.647	1.53	0.653	1.62	0.617	1.62	0.617	1.53	0.653	1.53	0.653
CEO-Chair	1.48	0.677	1.48	0.675	1.51	0.662	1.51	0.662	1.48	0.675	1.48	0.675
CEO-Group	1.49	0.669	1.49	0.672	1.58	0.632	1.58	0.632	1.49	0.672	1.49	0.672
BIG 4	1.22	0.822	1.22	0.818	1.22	0.818	1.22	0.818	1.22	0.818	1.22	0.818
Audit Partner Tenure	1.19	0.841	1.19	0.838	1.17	0.854	1.17	0.853	1.19	0.838	1.19	0.838
Firm Size	1.72	0.580	1.73	0.577	1.70	0.589	1.70	0.588	1.73	0.577	1.73	0.577
Firm Age	1.29	0.775	1.29	0.778	1.29	0.774	1.29	0.774	1.29	0.778	1.29	0.778
Firm Growth	1.18	0.847	1.19	0.841	1.18	0.849	1.18	0.849	1.19	0.841	1.19	0.841
Leverage	1.28	0.780	1.26	0.791	1.30	0.767	1.30	0.768	1.26	0.791	1.26	0.791
<b>Mean VIF</b>	<b>2.18</b>		<b>2.16</b>		<b>1.94</b>		<b>1.94</b>		<b>2.16</b>		<b>2.16</b>	

(This table is continued on the next page)

Table 5.18 Test for Model Specification Errors – Full sample (Cont')

Panel A: Variance Inflation Factors for Independent Variables (Cont')

Explanatory Variables	Model 5.5 – All Directors											
	DA1		DA2		DR1		DR2		DA2 DR1		DA2 DR2	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Manager Own	1.59	0.628	1.59	0.628	1.52	0.657	1.52	0.657	1.59	0.628	1.59	0.628
Share Difference	1.29	0.778	1.29	0.775	1.25	0.801	1.25	0.801	1.29	0.775	1.29	0.775
CV	1.35	0.739	1.35	0.739	1.35	0.741	1.35	0.741	1.35	0.739	1.35	0.739
Board Size	2.06	0.485	2.06	0.485	2.02	0.496	2.02	0.496	2.06	0.485	2.06	0.485
Board Independence	3.23	0.310	3.21	0.312	3.51	0.285	3.51	0.285	3.21	0.312	3.21	0.312
Board Experience	1.40	0.714	1.40	0.713	1.38	0.725	1.38	0.725	1.40	0.713	1.40	0.713
CEO Founder	1.54	0.651	1.54	0.651	1.56	0.639	1.56	0.639	1.54	0.651	1.54	0.651
CEO Descendant	1.55	0.647	1.53	0.654	1.62	0.618	1.62	0.618	1.53	0.654	1.53	0.654
CEO-Chair	1.47	0.679	1.48	0.677	1.51	0.663	1.51	0.663	1.48	0.677	1.48	0.677
CEO-Group	1.48	0.676	1.47	0.680	1.56	0.640	1.56	0.640	1.47	0.680	1.47	0.680
BIG 4	1.15	0.869	1.15	0.866	1.15	0.868	1.15	0.868	1.15	0.866	1.15	0.866
Audit Partner Tenure	1.18	0.844	1.19	0.842	1.17	0.857	1.17	0.857	1.19	0.842	1.19	0.842
Firm Size	1.66	0.601	1.67	0.598	1.62	0.616	1.63	0.615	1.67	0.598	1.67	0.598
Firm Age	1.27	0.790	1.26	0.792	1.26	0.791	1.26	0.791	1.26	0.792	1.26	0.792
Firm Growth	1.18	0.848	1.19	0.842	1.17	0.851	1.17	0.851	1.19	0.842	1.19	0.842
Leverage	1.26	0.794	1.24	0.805	1.28	0.784	1.28	0.784	1.24	0.805	1.24	0.805
Mean VIF	2.24		2.22		1.97		1.97		2.22		2.22	

Explanatory Variables	Model 5.5 – Executive Directors											
	DA1		DA2		DR1		DR2		DA2 DR1		DA2 DR2	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Manager Own	1.12	0.891	1.12	0.894	1.11	0.898	1.11	0.898	1.12	0.894	1.12	0.894
Share Difference	1.15	0.873	1.15	0.868	1.14	0.880	1.14	0.880	1.15	0.868	1.15	0.868
CV	1.36	0.737	1.36	0.737	1.35	0.739	1.35	0.739	1.36	0.737	1.36	0.737
Board Size	2.06	0.486	2.06	0.486	2.01	0.497	2.01	0.497	2.06	0.486	2.06	0.486
Board Independence	3.21	0.311	3.19	0.313	3.50	0.286	3.50	0.286	3.19	0.313	3.19	0.313
Board Experience	1.40	0.714	1.40	0.713	1.38	0.725	1.38	0.725	1.40	0.713	1.40	0.713
CEO Founder	1.55	0.645	1.55	0.645	1.58	0.633	1.58	0.633	1.55	0.645	1.55	0.645
CEO Descendant	1.55	0.644	1.54	0.649	1.63	0.614	1.63	0.614	1.54	0.649	1.54	0.649
CEO-Chair	1.48	0.678	1.48	0.677	1.51	0.663	1.51	0.663	1.48	0.677	1.48	0.677
CEO-Group	1.46	0.686	1.45	0.689	1.54	0.648	1.54	0.648	1.45	0.689	1.45	0.689
BIG 4	1.13	0.881	1.14	0.877	1.13	0.881	1.13	0.881	1.14	0.877	1.14	0.877
Audit Partner Tenure	1.19	0.843	1.19	0.841	1.17	0.856	1.17	0.855	1.19	0.841	1.19	0.841
Firm Size	1.63	0.612	1.64	0.608	1.60	0.625	1.60	0.624	1.64	0.608	1.64	0.608
Firm Age	1.26	0.797	1.25	0.799	1.26	0.795	1.26	0.795	1.25	0.799	1.25	0.799
Firm Growth	1.18	0.849	1.19	0.843	1.17	0.851	1.17	0.852	1.19	0.843	1.19	0.843
Leverage	1.26	0.794	1.24	0.805	1.28	0.784	1.28	0.784	1.24	0.805	1.24	0.805
Mean VIF	2.25		2.23		1.98		1.98		2.23		2.23	

(This table is continued on the next page)



Table 5.18 Test for Model Specification Errors – Full sample (Cont')

## Panel B: Durbin-Wu-Hasman Test for Endogeneity

	<b>H<sub>0</sub>: Residuals of All Ownership and Board Structure Variables are Exogenous</b>							
	<b>Model 5.1</b>		<b>Model 5.3</b>		<b>Model 5.5</b>			
					<b>All Directors</b>		<b>Executive Directors</b>	
	<b>Chi-sq</b>	<b>p value</b>	<b>Chi-sq</b>	<b>p value</b>	<b>Chi-sq</b>	<b>p value</b>	<b>Chi-sq</b>	<b>p value</b>
<b>DA1</b>	4.665	0.588	8.511	0.667	4.958	0.549	4.798	0.570
<b>DA2</b>	4.633	0.592	11.192	0.427	4.726	0.579	4.325	0.633
<b>DR1</b>	8.555	0.200	15.595	0.157	7.692	0.262	7.544	0.274
<b>DR2</b>	1.674	0.947	20.236	0.042	3.554	0.737	3.228	0.780
<b>DA2_DR1</b>	4.266	0.641	11.099	0.435	4.369	0.627	3.952	0.683
<b>DA2_DR2</b>	4.165	0.654	10.999	0.443	4.193	0.651	3.921	0.687

**Table 5.19: Two-Stage least Square with Instrument Variables (2SLS) for Discretionary Revenues – Full Sample**

Explanatory Variables	DR2							
	Model 5.1		Model 5.3		Model 5.5			
					All Directors		Executive Directors	
	Coff.	t	Coff.	t	Coff.	t	Coff.	t
Concentrated Own	-0.006	(-1.18)						
Family Own			-0.017***	(-3.63)				
Government Own			0.0005	(0.04)				
Foreign Own			0.003	(0.44)				
Domestic Own			-0.004	(-0.36)				
Bank Own			-0.026	(-0.88)				
Non-Bank Fin.								
Insti. Own			-0.039*	(-1.68)				
Manager_Own					-0.005*	(-1.73)	0.002	(0.54)
Share Difference	0.004	(1.05)	0.006**	(2.20)	0.002	(0.81)	0.001	(0.26)
CV	0.000	(0.12)	-0.001	(-0.35)	0.001	(0.20)	0.001	(0.22)
Board Size	-0.013***	(-3.16)	-0.013***	(-3.10)	-0.014***	(-3.20)	-0.013***	(-3.12)
Board								
Independence	-0.012	(-1.43)	-0.011	(-1.31)	-0.013	(-1.54)	-0.012	(-1.43)
Board Experience	-0.004	(-1.45)	-0.002	(-0.74)	-0.004	(-1.44)	-0.004	(-1.49)
CEO Founder	-0.004**	(-2.11)	-0.003	(-1.57)	-0.003*	(-1.68)	-0.004**	(-2.16)
CEO Descendant	-0.001	(-0.38)	0.000	(0.14)	0.000	(-0.17)	-0.001	(-0.51)
CEO-Chair	0.001	(0.59)	0.002	(0.76)	0.001	(0.70)	0.001	(0.62)
CEO-Group	0.000	(-0.02)	0.001	(0.60)	0.000	(0.13)	0.000	(-0.08)
BIG 4	-0.002*	(-1.78)	-0.003***	(-2.71)	-0.003**	(-2.12)	-0.002*	(-1.86)
Audit Partner								
Tenure	-0.001	(-0.71)	-0.001	(-0.55)	-0.001	(-0.71)	-0.001	(-0.69)
Firm Size	-0.002***	(-4.17)	-0.003***	(-4.69)	-0.002***	(-4.28)	-0.002***	(-4.12)
Firm Age	-0.002**	(-2.00)	-0.003***	(-2.58)	-0.002**	(-2.13)	-0.002**	(-1.98)
Firm Growth	0.003	(1.54)	0.003	(1.31)	0.003	(1.54)	0.003	(1.61)
Leverage	0.003	(1.25)	0.005*	(1.92)	0.003	(1.36)	0.003	(1.24)
Constant	0.116***	(8.53)	0.126***	(8.66)	0.119***	(8.43)	0.113***	(8.47)
No. of Obs.	3,277		3,356		3,277		3,277	
Adj. R-squared	0.077		0.079		0.08		0.077	
F-test	7.119		6.644		7.09		7.127	
p_value	0.000		0.000		0.00		0.000	

**Note:** Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

## 5.7 Chapter Summary and Conclusions

The latitude of accounting standards allows managers to report accounting information that better reflects a firm's position and performance. However, the conflict of interests that cannot be solved among contract parties in firms with dispersed or concentrated ownership may motivate managers or dominant shareholders to take this opportunity to exercise accounting discretion for their own interests (Healy and Wahlen, 1999).

This chapter has investigated (1) whether ownership and other corporate governance mechanisms have influenced accounting discretion in the Thai capital market and (2) whether this potential impact differed significantly between the periods before and after the Thai corporate governance reforms. This study focuses on the main corporate governance mechanisms in the Thai capital market: ownership concentration, boards of directors, CEO characteristics and external auditors. Depending on the contractual and agency frameworks, these mechanisms have either enhanced or limited the use of managers' accounting discretion.

Although the existing literature suggests many approaches to the measurement of accounting discretion, none of them can measure the magnitude of accounting discretion without errors (Dechow et al. 1995; McNichols, 2000; Young, 1999). Therefore, this study has used (unsigned) discretionary accruals and (unsigned) discretionary revenues calculated from the Jones model, modified Jones model and revenues-based approaches suggested by Stubben (2010). This study has also attempted to investigate the possibility of improving the validity of discretionary accruals by integrating both sets of approaches. However, the adjusted discretionary accruals have not significantly differed from the discretionary accruals calculated by the original models.

Regarding the first and the second questions, the overall evidence suggests that ownership structure has had some influence on managers' accounting discretion, especially before the corporate governance reforms. Although the results seem to have been inconsistent among various measurements of accounting discretion, most of them support the proposition of an alignment effect, suggesting that higher levels of

ownership motivate blockholders to monitor financial reporting and thereby inhibit managers' opportunistic use of accounting discretion. Nevertheless, the alignment of interests seems to depend on the types of shareholder, their ability to govern managers' discretion on different accounts (accruals and revenues component of accruals) and the periods of study.

Different types of shareholder are motivated by their block ownership to limit accounting discretion over different accounts. It appears that most of them can better limit discretionary revenues than discretionary accruals. Possible explanations could be the fact that revenues account is less complicated and is normally scrutinised by regulators.

In particular, family block ownership, it appears that increasing levels of family ownership are associated with smaller magnitudes of discretionary revenues. Additionally, firms with dominant family shareholders appear to have engaged less in the misuse of discretionary revenues than firms without them did. This may imply that dominant family shareholders have influence over financial reporting and may be self-constrained by their block of shareholders to facilitate opportunistic accounting discretion over revenues. Additionally, better business knowledge and long-term relationships among family members may also contribute to their ability to inhibit opportunistic accounting discretion over revenues (for examples, see Ali et al., 2007; Smith and Amoako-Adu, 1999). Nevertheless, the findings suggest that family ownership played a role in limiting the use of discretionary revenues, but only after the reforms.

The findings also reveal that domestic company, bank and non-bank financial institutional investor block ownership is associated with smaller magnitudes of discretionary revenues. This may imply that they had knowledge and sufficient resources to monitor and limit the use of accounting discretion over revenues (for example, see Bushee, 1998) and supports the argument of Brickley et al. (1988), that financial institutions are more independent from the firms in which they invest;

therefore, they are likely to contribute to a firm's accounting policy. Nevertheless, block ownership appeared to motivate these shareholders to limit a use of discretionary revenues was only significant before the reforms. The expectation of a better corporate governance system may reduce the motivation of these shareholders to participate in the monitoring over financial reporting.

Regarding discretionary accruals, this study has found that increasing levels of government and foreign company block ownership were associated with smaller magnitudes of discretionary accruals, which implies that firms might have been better monitored or required by government and foreign investors to produce high quality reports of the accruals component of earnings (for examples, see Aggarwal et al. 2005; Ding et al. 2007; Jeon and Ryoo, 2013; Wang and Yung, 2011). Nevertheless, the role of foreign company investors block ownership in limiting managers' accounting discretion over accruals seems to have only existed before the reforms. Again, the reform may reduce the motivation of foreign company blockholders to participate in the monitoring over financial reporting.

However, the evidence suggests that the presence of a foreign company as the dominant shareholder enhanced the use of accounting discretion over revenues and may imply that high levels of share ownership increase the ability of foreign companies to influence accounting methods and policies for opportunistic purposes, such as to boost sales in the parent company (Boardman et al., 1997). In addition, the findings reveal that banks may have been motivated to facilitate the use of managers' accounting discretion over accruals, but only before the reforms. The close relationship between bank and firms may motivate the bank to facilitate in a use of accounting discretions over accruals before the reform. However, the evidence suggests that banks that acted as a dominant shareholders seemed to be constrained by their block of shares to limit the use of accounting discretion over accruals after the reforms. The restricted regulation by the bank regulator after the reform may force banks as owners to provide better monitoring over financial reporting.

Regarding managerial ownership, the evidence supports the expectation of an alignment effect, suggesting that levels of managerial ownership (all directors and executive directors) helped to align managers' interests with those of firms. Although there is evidence that increasing levels of executive director ownership may have enhanced the use of accounting discretion over revenues prior to the reforms, they helped to limit it after the reforms. This may partly imply the success of the corporate governance reforms that emphasised the responsibility and accountability of directors after the reforms.

Regarding board structure, while bigger boards tend to have consistently enhanced the use of accounting discretion over accruals, they tend to have limited the use of accounting discretion over revenues. This evidence reveals some conflict of interests between boards of directors and firms, but also suggests that the boards may have had different incentives and abilities in respect to curbing managers' accounting discretion; they tended to be concerned with revenues rather than accruals accounts because revenues accounts are less complicated and normally spotted by regulators and the public. In addition, board independence is likely to have enhanced the use of accounting discretion over accruals. This evidence is inconsistent with the findings of other studies, which predict that board independence may limit the use of accounting discretion (for examples, see Davidson et al., 2005; Jaggi et al., 2009; Klein, 2002; Peasnell et al., 2000). Again, the evidence questions whether independent directors in Thai listed firms were actually "independent".

Regarding CEO characteristics, CEO founders and their descendants appear to have limited the use of discretionary accruals, suggesting the dominance of an alignment of interests. Since most Thai listed firms with CEO founders are family firms, this evidence consistently suggests that family attributes may inhibit the engagement of CEO founders and their descendants in accounting discretion (Dechow et al., 1996).

Regarding auditor reputation and expertise, BIG4 firms appear to have only limited the use of discretion on revenues. Experience (five years or more) of auditor partners has been found to enhance their ability to limit the use of accounting discretion over accruals

and the revenues component of accruals. Since listed firms are required to rotate their auditors every five years, the evidence suggests that this rule might reduce the benefits of auditor experience in respect to the quality of financial reporting.

Overall, the findings of this chapter have revealed that ownership concentration tended to motivate largest shareholders to provide better monitoring or to inhibit managers' accounting discretion. Additionally, most dominant shareholders, and their types, did not have significant impacts on accounting discretion. Therefore, the positive impact of ownership concentration (by shareholder types) and the presence of dominant shareholders (by their types) on firm performance presented in Chapter 4 at least are not mainly influenced by managers' accounting discretion.

The findings may provide evidence of the success of the reforms in respect to reducing the role of dominant shareholders in firms with concentrated ownership, which was claimed to weaken the corporate governance system before the financial crisis (World Bank, 1998). However, this claim is also challenged by this chapter's findings, which suggest that the concentration of ownership in the hands of most types of shareholder, especially families, limited, rather than enhanced, the misuse of managers' accounting discretion. The evidence also suggests some improvements in the alignment of interests derived from increasing levels of shares owned by executive directors after the reforms and may point to their success in terms of improving an awareness of directors' responsibility and accountability.

The role of other corporate governance mechanisms (CEO characteristics and audit quality) on limiting managers' accounting discretion became significant after the reforms. However, their impacts on accounting discretion were not statistically different after the reforms, implying that the reforms did not significantly improve their efficiency in limiting managers' opportunistic accounting discretion.

This study has some limitations. Firstly, it aims to understand the impact of various corporate governance mechanisms on managers' accounting discretion in general but does not attempt to investigate the specific motivations for managers' accounting

discretion. Recent research suggests that managers may engage in accounting discretion to convey private information that better reflects firms' financial status (for examples, see Bowen et al., 2008; Watts and Zimmerman, 1990; Subramanyam, 1996; Tucker and Zarowin, 2006; Warfield et al. 1995). Therefore, it might be too early to conclude that the use of accounting discretion has been for opportunistic purposes. Hence it will be interesting for future research to explore the consequences of managers' accounting discretion and whether it is an example of efficiency or opportunism.

Secondly, although many approaches to the measurement of managers' accounting discretion are suggested by the existing literature, no perfect measurement is forthcoming. This study uses more than one approach, including the most powerful approaches suggested by the literature, to estimate managers' accounting discretion, but it is possible that the estimated discretionary accruals and discretionary revenues have still suffered from measurement errors, which may have reduced the validity of the reported results.

In this study, the use of different measurements has led to some inconsistent findings regarding the power of significance between and within accruals and revenues-based approaches. Regardless of possible measurement errors, these inconsistencies may be driven by the different incentives and abilities of the largest shareholders or dominant shareholders and boards of directors to detect accounting discretion over different accounts. Therefore, this study considers that its findings are sufficient convey an understanding of the impact of ownership structure and other corporate governance mechanisms on managers' accounting discretion in the context of emerging markets such as Thailand.

It seems fair to conclude that ownership concentration has helped to solve the conflict of interests in terms of managers' accounting discretion in Thai listed companies. The findings also confirm that different approaches to the measurement of accounting discretion may lead to different results among researchers. Therefore, this study encourages future research related to managers' accounting discretion to apply multiple



approaches in order to obtain more understanding on the nature of this activity. The recent accruals-based approach of Dechow et al. (2012), taking into account a reversal factor, may provide fruitful evidence for this area of research.

In conclusion, the evidence from this chapter sheds light on the role of various ownership structures, especially families, and other corporate governance mechanisms in inhibiting the use of accounting discretion in the Thai capital market. However, it casts doubt on the role of boards of directors, which might not be as efficient as they were intended to be. The next chapter will explore whether investors can correctly perceive the impact of these governance mechanisms on corporate performance.

## **Chapter 6: How do Investors Perceive the Impact of Ownership Structure and Other Corporate Governance Mechanisms on Firm Performance?**

### **6.1 Introduction: Motivations and Research Questions**

The findings from Chapters 4 and 5 indicate that ownership structure and other corporate governance mechanisms have significant impacts on firm performance and managers' accounting discretion. Ownership concentration and the presence of dominant shareholders by most of shareholders' types contribute to high firm performance and low accounting discretion (discretionary accruals and revenues). In addition, firms with CEO founders and long-audit tenures are associated with low accounting discretion. Nevertheless, the findings reveal that the board of directors in terms of board size and independence tends to be an inefficient mechanism either to enhance corporate performance or to limit the use of managers' accounting discretion and that this impact was unaffected by the reforms.

So far, the evidence has challenged the claim that ownership concentration and the presence of dominant shareholders are poor governance structures, but this negative perception may lead investors to a discount of a firm's value without considering its actual performance. On the other hand, the high-profile corporate governance reforms, which aimed to regain investors' confidence in the Thai capital market, may have helped to reduce this negative view, even though they might not have made significant changes to performance.

Although some research has attempted to investigate market reactions to individual governance mechanisms, such as the board of directors (DeFond et al., 2005; Nguyen and Nielsen, 2010; Lin et al., 2003; Singhvi et al., 2013) and external auditors (Teoh and Wong, 1993), there is a lack of relevant research that directly examines investors'

perceptions of ownership structure and takes potential impact of the reforms into account. Therefore, this chapter aims to investigate whether investors can correctly perceive the impact of ownership structure and other corporate governance mechanisms on firm performance and whether the corporate governance reforms improve the accuracy of their perceptions of these impacts.

In particular, the research questions addressed in this chapter are as follows:

Q6.1: Whether investors correctly perceive the impact of ownership structure on firm performance and therefore correctly estimate these impacts.

Q6.2: Whether investors correctly perceive the impact of other corporate governance mechanisms (board of directors, CEO characteristics and audit reputation and expertise) on firm performance and therefore correctly estimate these impacts.

Q6.3: Whether the corporate governance reform has helped investors to more realistically perceive the impact of ownership and other corporate governance mechanisms on firm performance.

Based on the efficient market hypothesis (EMH), investors should efficiently use the available information about ownership structure and other corporate governance mechanisms to correctly estimate their impact on firm performance. However, the existing literature provides some evidence suggesting that investors might misperceive their actual impact.

Sloan (1996) first employed the Mishkin Test (1983) (MT) to test the naïve hypothesis against the EMH in the context of accounting research. He reveals that investors fixated on earnings and failed to distinguish the ability of cash flows and the accruals components of earnings to predict future earnings.

Later, Kraft et al. (2007) argued that the MT test applied by Sloan (1996) and in subsequent research may suffer from the omitted variable problems. As a result, it may incorrectly lead to the conclusion that the market is inefficient because of earnings and earnings components if the omitted variables were not rationally priced. They also suggest that the Ordinary Least Square method (OLS) can be applied in order to provide the same results as the MT does. Therefore, this study applies the OLS suggested by

Kraft et al. (2007), which provides a simple but practical method by which to answer the research questions.

This study contributes to the literature on corporate governance and accounting research literature in several ways.

Firstly, this study directly examines investors' perceptions of ownership structure and other corporate governance mechanisms in more general cases. This chapter's findings improve our understanding how efficiently investors use the non-accounting information such as ownership and other corporate governance information that is available to the public. This is one of the most important indicators of the success of the Thai corporate governance reforms, which were aimed at promoting transparency of financial reporting and disclosure.

Additionally, the evidence could confirm whether the positive impact of ownership structure on market performance found earlier in Chapter 4 have been influenced by investors' perception of these structures. The more understanding on the views of investors on these structures could also help policy makers to develop more efficient ways to inform investors about the role of ownership structure and other corporate governance mechanisms in their invested firms. An accurate view of these structures could also help investors to efficiently make their investment decisions in turn increasing the efficiency of the Thai capital market.

Secondly, this study indirectly responds to a call by Kraft et al. (2007) to improve the MT used in accounting research. In order to avoid misspecification in the MT, this study takes into account a more complete set of variables and includes non-financial information, such as ownership structure and other corporate governance mechanisms that may affect future firm performance. The results could provide guidance for future research on the mispricing of earnings to improve the MT for example by adding the control variables, other than accounting numbers, that may affect future firm performance.

Finally, the results from this study should enhance current understanding of the efficiency of the Thai capital market and the knowledge of investors of the effectiveness of corporate governance reforms. They could also provide guidance for policy makers and market regulators who develop corporate governance policies and practices. Reforms should not merely respond to international pressure but should be efficient and practical for firms and the Thai capital market.

This chapter will be organised as follows: Section 6.2 begins with a brief overview of the theoretical framework of the market efficiency hypothesis and alternative hypotheses in accounting research. The relevant literature and hypothesis development are discussed in Chapter 6.3. Research Design is presented in Section 6.4. Sampling and Data collection is described in Section 6.5 and the descriptive statistics analysis and empirical evidence is discussed in Section 6.6. Sensitivity Analysis is provided in Section 6.7 and the last section provides a chapter summary and conclusions and highlights topics for future research.

## **6.2 Theoretical Framework**

### **6.2.1 The Efficient Market Hypothesis**

The efficient market hypothesis (EMH) plays a major role in the economics and finance literature. Ideally, the capital market<sup>1</sup> is called “efficient” if asset prices at any time “fully reflect” all available information (Fama, 1970). Jensen (1978: 96) simply defines an efficient market as follows:

“A market is efficient with respect to information set  $\theta$ , if it is impossible to make economic profits<sup>2</sup> by trading on the basis of information set  $\theta_t$ .”  
(Footnote is added)

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<sup>1</sup> The major role of the capital market is to allocate “ownership of economy’s capital stock”; therefore, the price of security can be a signal for resource allocation (Fama, 1970: 383). The capital market includes stock, bond and credit trade markets (Watts and Zimmerman, 1986), but this study focuses exclusively on the stock market.

<sup>2</sup> Economic Profit is the profit after subtracting the market rate of the return on capital (Watts and Zimmerman, 1986: 17). It also includes all net costs such as transactions costs and costs to obtain information.

The underlying assumption of the EMH is that assets (stock) are priced and adjusted rapidly to an equilibrium in response to a set of information in the capital market (Ball, 1972). To make the theory testable, an expected price of asset  $i$  at time  $t+1$  given  $\theta_t$ ,  $E(P_{i,t+1} | \theta_t)$  is

$$E(P_{i,t+1} | \phi_t) = P_{i,t} [1 + E(r_{i,t+1} | \phi_t)]$$

Where,

$\phi_t$  = Set of information available at time  $t$

$P_{i,t}$  = Price of asset  $i$  at time  $t$

$E(r_{i,t+1} | \phi_t)$  = The market's expected rate of return on asset  $i$  (or other assets with the same risk) at time  $t$ , given  $\theta_t$

The EMH predicts that, on average, no one can earn abnormal returns<sup>3</sup> from trading on the given set of information. Hence, on average, economic profits or abnormal returns should be zero.

Nevertheless, the degree of market efficiency depends on the speed at which the asset's prices achieve equilibrium after the release of a relevant set of information (Ball, 1972). Therefore, market efficiency is usually categorised into three different types: as follows:

- 1) **Weak Form of the EMH:** The information set ( $\theta$ ) contains only historical information, such as historical stock price/volume, which is readily available to many market participants at low costs. Therefore, no systematic abnormal

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<sup>3</sup> According to Watts and Zimmerman (1986: 18), an abnormal rate of return ( $v_{i,t+1}$ ) is defined as the difference between the realised rate of return ( $r_{i,t+1}$ ) and the market's expected rate of return for asset  $i$ , given  $\theta_t$  ( $E(r_{i,t+1} | \theta_t)$ ). That is,

$$v_{i,t+1} \equiv r_{i,t+1} - E(r_{i,t+1} | \theta_t).$$

The average abnormal rate of return across many periods ( $T$ ) is expected to be zero when the same set of information is used. That is,

$$1/T \sum_{t=1}^T v_{i,t+1} \cong 0$$

returns should be observed when investors trade stocks using this set of information.

- 2) **Semi-Strong Form of the EMH:** The information set ( $\theta$ ) contains all publicly available information at time  $t$ , such as announcements of annual earnings, which is readily available to many market participants at low costs. Therefore, no systematic abnormal returns should be observed when investors trade stocks using this set of information.
- 3) **Strong Form of the EMH:** The information set ( $\theta$ ) contains all information at time  $t$ , which is readily available to many market participants at low costs. Therefore, no systematic abnormal returns should be observed when investors trade stocks using this set of information.

### 6.2.2 The Alternative Hypotheses vs. The Efficient Market Hypothesis

Accounting research has long been interested in the extent to which accounting numbers such as earnings convey useful information to the capital market (Ball, 1972; Jensen, 1978; Watts and Zimmerman, 1968). Prior to the EMH, accounting research during 1960s, that examined the relationship between accounting earnings and stock prices, mostly relied on the mechanistic hypothesis (MH). The MH assumes that accounting reports are the only source of information on a corporation. Therefore, stock prices are determined solely on the reported accounting earnings (for examples, see Ball, 1972; Hand, 1990; Watts and Zimmerman, 1968). In addition, the MH assumes that market participants, such as investors, interpret reported earnings without concern for a firm's accounting policies and procedures. These investors are "unsophisticated" because they are unable to properly extract information, such as the probability distribution of future cash flows, from a firm's financial reports (Hand, 1990; Watts and Zimmerman, 1968).

Because accounting standards allow managers to exercise discretion over accounting policies and procedures, managers can mislead the capital market by choosing accounting procedures that manipulate shareholder perceptions to serve their own interests by, for example, overvaluing a firm's stock prices. As a result, the capital

market cannot discriminate between efficient and inefficient corporations (Watts and Zimmerman, 1968) and the MH predicts that the capital market can be systematically misled by reported earnings, leading to the mispricing of stocks.

Another hypothesis used in the accounting literature is the functional fixation hypothesis (FFH). Unlike the MH, the FFH assumes that there are two types of investors: sophisticated investors who can properly extract the information contained in financial reports and unsophisticated investors who cannot (Hand, 1990). However, it is difficult that information extracted from a few sophisticated investors is transferred to unsophisticated investors. Therefore, many investors are unsophisticated, leading to the mispricing of stocks.

These two hypotheses contradict the notion of the EMH. Under the EMH, the capital market is competitive in the sense that market participants, such as investors and security analysts, use not only accounting reports but also other information to evaluate firm value (Watts and Zimmerman, 1968); they are assumed to be sophisticated. Therefore, in contrast to the MH and FFH, the capital market under the EMH cannot be systematically misled by reported earnings.

### **6.3 Literature Review and Development of Hypotheses**

#### **6.3.1 How do Investors Perceive the Impact of Ownership Structure on Firm Performance?**

##### ***6.3.1.1 Ownership Concentration and the Presence of Dominant Shareholders***

As discussed in previous chapters, ownership structure is a root cause of the agency problem in firms with dispersed or concentrated ownership. In the context of concentrated ownership, a conflict of interest usually occurs between dominant shareholders and minority shareholders. Holderness (2003) suggests that shareholders with blocks of shares are motivated to participate in a firm's monitoring and policies because their wealth could be substantially affected by firm performance. This, in turn, benefits other shareholders. However, if the large shareholders' interests are not aligned



to those of other shareholders, they might influence a company's policies for private benefit at the expense of other shareholders.

So far, there is only limited literature available on the question of whether investors correctly perceive the impact of ownership concentration on firm performance.

Drawing on literature on the announcement effect of private equity placement, this study can gain some insights into investors' perception about the impact of ownership concentration on firm performance.

For example, Wruck (1989) investigated market reactions to private equity sales in the US. She argued that private equity and public equity sales send different signals about a firm value to the capital market. She found that, on average, the announcement of private equity sales was followed by positive abnormal returns, which opposed to negative abnormal returns found in studies of the announcement effect of public equity sales. This may be because a change in ownership concentration affects the markets' assessment of a firm's value<sup>4</sup>. For example, investors may view private equity sales as a solution to appropriate share distributions of the firm that reduce the voting power of the existing blockholders. In contrast, investors may view public equity shares as a dilution of the existing blockholders' voting power by many small shareholders, which could reduce the benefits that firms may gain from the existing blockholders.

In the context of an initial public offering (IPO), researchers (such as Chen and Strang, 2004; Darmadi and Gunawan, 2013) suggest that ownership structure (ownership retention by insiders) could be used by the IPO firms to signal high quality to potential investors. According to signalling theory, investors may perceive that the high retention by initial shareholders is a signal of firms with good performance because initial shareholders might not want to transfer wealth (such as high future cash flows) to outside investors.

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<sup>4</sup> Another possible explanation is that private and public equity sales convey the opposite signal of firm value to the market. Wruck (1989) suggests that the market may view public equity sales as a negative signal for firm overvaluation. The market may also consider that private equity sales will mitigate this problem because it provides an opportunity for buyers and managers to directly negotiate the true firm value.

In contrast, Chen and Strang (2004) argue that the initial controlling owners may intentionally retain blocks of shares for private benefits of control. If investors have a negative perception of the stock retention, they will value stock lower, leading to lower IPO returns<sup>5</sup>. Chen and Strang (2004) found evidence of a negative relationship between IPO returns and level of ownership by the largest single shareholder in China. They also report that IPO returns were low in firms in which the State was the largest shareholder. However, the returns were high in firms with other domestic shareholders as the largest shareholders. Their evidence implies a negative investor perception of ownership concentration that may be linked to an expectation that block ownership of shares will facilitate large shareholders (such as the State) to enjoy private benefits of control. Nevertheless, the high returns in firms with other largest domestic shareholders could imply that investors may expect for better corporate governance in these firms.

However, other researchers have been unable to find significant relationships between ownership concentration and IPO returns in countries such as Indonesia (Darmadi and Gunawan, 2013) and Thailand (Venkatesh and Neupane, 2004).

Accounting research provides some clues that investor perceptions of ownership concentration may affect their demand for high quality financial reporting, thereby influencing how they price stocks. Fan and Wong (2002) suggest that investors may have negative perceptions that high ownership concentration leads managers or dominant shareholders to become entrenched. As a result, investors will not trust the quality of accounting information (such as accounting earnings) reported by firms with concentrated ownership and the loss of the credibility of reported earnings may lower earnings informativeness and lead to a decline in stock prices. Therefore, investors may require a higher quality of reported earnings in order to compensate for poor ownership structure, and their perception of an entrenchment effect may also motivate managers or dominant shareholders to report high quality earnings to, for example, protect against a decline in stock price (Wang, 2006).

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<sup>5</sup> IPO returns normally refer to the difference between the public offering stock price and the closing stock price on its first trading date.

On the other hand, investor perceptions of the alignment effect may decrease their motivation to monitor firms and lower their demand for high quality reported earnings (Wang, 2006). This may also reduce the motivation for managers or dominant shareholders to report high quality earnings.

Overall, the limited evidence from the existing literature provides some clues that investors' perception of ownership concentration might affect how they price stocks. For example, if investors have overly positive perceptions of ownership concentration, they might expect efficient monitoring by blockholders or dominant shareholders, which leads them to overestimate (underestimate) the positive (negative) impact of ownership concentration on firm performance. On the other hand, if they have overly negative perceptions of ownership concentration, their fear of exploitation might lead them to, underestimate (overestimate) the positive (negative) impact of blockholders.

In Thailand, the evidence from the previous chapters suggests that firms gain benefits from their large shareholders/ dominant shareholders. However, the claims by the international organisations and the press about the poor corporate governance system and the bad news about e.g. exploitation by large shareholders/dominant shareholders might create a negative perception of these structures. Therefore, this study proposes the hypotheses based on investor misperception of ownership concentration and a dominant shareholder as follows:

*H<sub>a1</sub>: Investors do not correctly perceive the impact of ownership concentration on firm performance and therefore estimate it incorrectly.*

*H<sub>a2</sub>: Investors do not correctly perceive the impact of the presence of a dominant shareholder on firm performance and therefore estimate it incorrectly.*

### **6.3.1.2 Ownership Concentration by Shareholder Types and the Presence of Dominant Shareholders by their Types**

As discussed in Chapters 2 and 4, different types of shareholder have different incentives to participate in firms' monitoring processes or influence management. Investors may therefore have different perceptions of the impact of different types of shareholder ownership on firm performance.

### 6.3.1.2.1 Family

A family's ties to its business (through loyalty, trust and concern for reputation), and the lesser influence of agency problems, as outlined in the existing literature (such as Bertrand et al., 2008; Fama and Jensen, 1983; James, 1999), may lead investors to have a positive perception when family shareholders own or control firms.

On the other hand, investors may have negative perceptions of family firms because of concerns that family ownership facilitates the expropriation of corporate assets and decreases the efficiency of business succession plans (Anderson and Reeb, 2003; James, 1999; Mehrotra et al., 2013; Mishra et al. 2001).

In Thailand, families who own major businesses are normally well known and investors may believe that the family will not exploit corporate assets because it might lose its reputation and status in society. An overly positive perception may lead investors to overestimate (underestimate) the positive (negative) impact of family block ownership or the presence of dominant family shareholders on firm performance.

In contrast, investors may be overly concerned about the expropriation of corporate assets because of the bad press that family block ownership continues to receive. They might also question the competency of the founding family's descendants. The overly negative perception might lead them to underestimate (overestimate) the positive (negative) impact of these structures on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of family block ownership/a dominant family shareholder as follows:

*H<sub>a3</sub>: Investors do not correctly perceive the impact of family block ownership on firm performance and therefore estimate it incorrectly.*

*H<sub>a4</sub>: Investors do not correctly perceive the impact of the presence of a dominant family shareholder on firm performance and therefore estimate it incorrectly.*

### **6.3.1.2.2 Government**

Investors may have negative perceptions of government shareholders if they believe government officials pursue private interests by holding high proportions of shares (Chen and Strang, 2004). In Thailand, unstable politics and fear of government corruption may create an overly negative perception of firms owned or controlled by government, leading investors to underestimate (overestimate) the positive (negative) impact of government block ownership and the presence of dominant government shareholders on firm performance.

On the other hand, investors may think that firms with high government ownership will receive financial support from government that will enhance firm performance and protect against bankruptcy (Capobianco and Christiansen, 2011; Chen, Firth and Xu, 2009; Cuervo and Villalonga, 2000; Le and Buck, 2011; Shleifer and Vishny, 1994). In this case, an overly positive perception may lead investors to overestimate (underestimate) the positive (negative) impact of government block ownership and the presence of dominant government shareholders on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of government block ownership/a dominant government shareholder as follows:

*H<sub>a5</sub>: Investors do not correctly perceive the impact of government block ownership on firm performance and therefore estimate it incorrectly.*

*H<sub>a6</sub>: Investors do not correctly perceive the impact of the presence of a dominant government shareholder on firm performance and therefore estimate it incorrectly.*

### **6.3.1.2.3 Foreign Company Investors**

Prior literature suggests that foreign companies are motivated by their substantial ownership to provide efficient monitoring to the firms they invest in (for example, see Tomassen, 2004). Chen et al. (2012) suggest that the performance of foreign-owned companies improves over time with greater experience and knowledge of the foreign market. These companies often gain higher profitability from growth as they

substantially invest in intangible assets such as technology or advertising (Lu and Beamish, 2004). These reasons could lead market participants to be exceedingly optimistic the future performance of foreign-owned firms (Duru and Reeb, 2002). Therefore, the overly positive perceptions could lead investors to overestimate (underestimate) the positive (negative) impact of foreign block ownership or the presence of dominant foreign shareholders on firm performance.

However, investor perceptions of foreign-owned firms may be negative if they believe that monitoring by foreign companies will be more difficult because of geographical and cultural differences (Boardman et al., 1997; Lin and Shiu, 2003; Wiwattanakantang, 1999). Investors may also expect some risk that a parent company will expropriate corporate resources in subsidiary companies (Chen et al, 2012). Therefore, the overly negative perceptions may lead investors to underestimate (overestimate) the positive (negative) impact of foreign block ownership or the presence of dominant foreign shareholders on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of foreign company block ownership/a dominant foreign company shareholder as follows:

*H<sub>a7</sub>: Investors do not correctly perceive the impact of foreign block company ownership on firm performance and therefore estimate it incorrectly.*

*H<sub>a8</sub>: Investors do not correctly perceive the impact of the presence of a dominant foreign company shareholder on firm performance and therefore estimate it incorrectly.*

#### **6.3.1.2.4 Bank and Non-Bank Financial Institutional Investors**

In respect to bank and non-bank financial institutional investors, investors may expect more efficient monitoring by these shareholders because these investors are specialists in business (e.g, see Brickley et al., 1988; Chen et al., 2007; Cornett et al., 2007). Therefore, investors may see bank and non-bank institutional investor ownership as a good sign for future firm performance. An overly positive perception may lead investors to overestimate (underestimate) the positive (negative) impact of bank and non-bank

financial institutional investors block ownership or the presence of these shareholders as dominant shareholders on firm performance.

However, investors may perceive that some institutional investors such as banks may lack motivation to participate in firms' monitoring because these investors may want to avoid conflicts with their clients (e.g. see Cornett et al., 2007). In addition, investors may expect some conflicts of interests between equity investors and banks as lenders. Therefore, an overly negative perception may lead them to underestimate (overestimate) the positive (negative) impact of block ownership by bank and non-bank financial institutional investors or their presence as dominant shareholders on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of bank block ownership/a dominant bank shareholder as follows:

*H<sub>a9</sub>: Investors do not correctly perceive the impact of bank block ownership on firm performance and therefore estimate it incorrectly.*

*H<sub>a10</sub>: Investors do not correctly perceive the impact of the presence of dominant bank shareholders on firm performance and therefore estimate it incorrectly.*

In addition, this study separately proposes the hypotheses based on investor misperception of non-bank financial institution block ownership/a dominant non-bank financial institution shareholder as follows:

*H<sub>a11</sub>: Investors do not correctly perceive the impact of non-bank financial institution block ownership on firm performance and therefore estimate it incorrectly.*

*H<sub>a12</sub>: Investors do not correctly perceive the impact of the presence of a dominant non-bank financial institution shareholder on firm performance and therefore estimate it incorrectly.*

## **6.3.2 How do Investors Perceive the Impact of Other Corporate Governance Mechanisms on Corporate Performance?**

### ***6.3.2.1 Board of Directors***

From an agency theory perspective, a board of directors is a corporate governance mechanism that aims to reduce the agency problem in a corporation (Fama and Jensen, 1983; Hermalin and Weisback, 2003).

This study is interested in why investors might not accurately perceive the impact of a board of directors in terms of its size, independence and experience on firm performance, which might lead them to underestimate or overestimate their impact on firm performance.

#### ***6.3.2.1.1 Board Size***

As discussed in Chapters 2 and 4, literature based on the agency theory perspective suggests that a larger board size may reduce board efficiency and it is easier for CEOs to control larger boards (Jensen, 1993). However, other research suggests that larger boards may be more efficient in terms of extracting critical resources (such as funding) from an external environment (for examples, see Dalton et al., 1999; Pfeffer, 1972; Proven, 1980).

Most research that links board size to investor perceptions has been done in the context of IPO firms. Certo (2003) argues that investors may use board structure as a piece of non-financial information in order to make decisions on investment. Certo et al. (2001) found that board size has a negative relationship with IPO returns,<sup>6</sup> indicating that firms with larger boards tend to have lower IPO returns. In Indonesia, Darmadi and Gunawan (2013) also found a negative relationship, but with limited significance.

This literature suggests that investors might overestimate large boards' abilities to access and manage resources. This may lead investors to overestimate (underestimate) the

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<sup>6</sup> Certo et al. (2001) focused on the benefit to initial shareholders, who are likely to reduce IPO underpricing as much possible, thereby lowering IPO returns.



positive (negative) impact of board size on firm performance. On the other hand, concerns about free riding in large boards might overly negatively affect investors' perceptions, which may lead investors to underestimate (overestimate) the positive (negative) impact. Therefore, this study proposes the hypotheses based on investor misperception of board size as follows:

*H<sub>a13</sub>: Investors do not correctly perceive the impact of board size on firm performance and therefore estimate it incorrectly.*

#### **6.3.2.1.2 The Independence and Experience of the Board of Directors**

Independent directors<sup>7</sup> are thought to help minimise the conflict of interests within a board. As discussed in Chapters 2 and 4, independent directors are believed to supervise CEOs efficiently because they are less likely to collude with managers (e.g. see Fama and Jensen, 1983; Hermalin and Weisbach et al., 1998).

The existing literature also provides some evidence that could be relevant to investor perceptions of the impact of board independence on firm performance. For example, Rosenstein and Wyatt (1990) report a positive stock-price reaction following the appointment of outside directors in the US. They interpret the findings as evidence that investors expect firms to benefit from monitoring by outside directors.

Lin et al. (2003: 352) suggest that investor perceptions of changes in board structure (the appointment of new outside directors) depend on how they view “firm- and director-specific characteristics”. They found a positive stock price reaction only when outside directors had a strong incentive to monitor firms, and when the potential for agency problems was high (low managerial ownership).

Nguyen et al. (2010) examined stock reactions to the sudden death of independent directors in US listed firms. They posit that stock price should decline after the sudden death if investors perceive that the independent directors provided good monitoring and advice to managers. The negative market reaction should remain even when a new

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<sup>7</sup> “Independent directors” refers to directors who are not internal managers, such as current or former employees, and who have no business relationships with a firm.

director appointment is announced. This is because investors may expect some costs for replacement (such as search costs or learning curve of new directors). Their evidence indicates a decrease in stock price (negative abnormal returns) after the sudden death (even after controlling for directors' ability or skill), which implies that investors have positive perceptions of the role of independent directors.

Regarding director experience, Fama and Jensen (1983) argue that firms may benefit from appointing outside directors who are experts; their skill and experience may either help to improve board performance in monitoring processes or reducing costs of finance or production (Field et al., 2012).

The limited literature related to audit committee reform can also provide some clues about how investors view board experience. A study by DeFond et al. (2005) research the impact of the SOX (2002) provision that requires firms to disclose whether audit committees include members who have financial experience. They investigated market reactions surrounding the appointment of audit committee members with accounting experience, other financial experience and non-financial experience and found a positive and significant reaction only to the appointment of audit committees with accounting experience. The findings of Davidson et al. (2004) are similar. Singhvi et al. (2013) consistently found a negative market reaction to the departure of audit committee members who were accounting experts. Both these findings imply that investors believe that directors with relevant experience have an enhanced ability to monitor management.

The literature suggests that investor perceptions of the impact of the independence and expertise of boards of directors on firm performance may be positive. Investors may therefore have an overly positive perception of independent directors because they expect efficient supervision and high levels of expertise from them.

In Thailand, the government has created a great deal of publicity over its attempts to improve the efficiency of boards of directors in terms of their independence as part of the reforms. Therefore, investors may have an overly positive perception of independent directors as a good safeguard for their interests (potentially better than these directors

actually are). Since information on personal relationships between independent and executive directors is difficult to obtain, investors might find it difficult to correctly assess the impact of independent directors on firm performance and therefore overestimate (underestimate) their positive (negative) impact.

On the other hand, investors may question whether directors are really independent and expert. In addition, some corporate scandals, which get a high degree of press exposure, might convince investors that independent directors are useless (to a much greater degree than is the case in reality). Therefore, the overly negative perception may lead investors to underestimate (overestimate) the positive (negative) impact of independent directors on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of board independence and experience as follows:

*H<sub>a14</sub>: Investors do not correctly perceive the impact of board independence on firm performance and therefore estimate it incorrectly.*

*H<sub>a15</sub>: Investors do not correctly perceive the impact of board experience on firm performance and therefore estimate it incorrectly.*

### **6.3.2.2 CEO Characteristics**

Because CEOs have the most powerful position on a board of directors, they are likely to have a key influence on investors' expectations for the success of a firm. For example, Fischer et al. (2009)<sup>8</sup> argue that "the presence of a poorly (well) perceived CEO is perceived as a failure (success) of the board, where the degree of failure (success) is associated with how poorly (well) the CEO is perceived to be performing" (Fischer et al., 2009: 177)

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<sup>8</sup> They suggest that the shareholders' vote in uncontested director elections (such as those that are not related to proxy-fights or "vote-no campaigns") reflects investor perceptions of board performance. They also found that the higher (lower) shareholder approval scores were associated with lower (higher) stock price reactions subsequent to an announcement of CEO turnover.

As in previous chapters, this chapter focuses the literature review on CEO duality and CEO founders/descendants.

#### ***6.3.2.2.1 CEO Duality***

From an agency theory perspective, the combination of the CEO and chairman's positions may facilitate their control over boards of directors and thereby reduce the efficiency of boards in monitoring managers (Fama and Jensen, 1983; Jensen, 1993). However, according to the stewardship theory perspective, single leadership may bring benefits such as quicker decision-making processes in a changing business environment, CEO expertise and a clear role of leadership (for examples, see Boyd, 1995; Brickley et al., 1997).

Limited evidence is available in the literature. Baliga et al. (1996) investigated the market reaction to a change in non-CEO duality to CEO duality in the US, predicting that if investors have a positive (negative) perception of CEO duality due, for example, to an expected benefit from consistent strategy (poor governance), the change to CEO duality would lead to positive (negative) market reactions. However, they report insignificant evidence of an announcement effect from this change, indicating that investors are indifferent about CEO duality.

Based on relevant literature, investor perceptions of the impact of CEO duality on firm performance may be either positive or negative. An overly positive perception of CEO duality regarding CEO expertise and the clear role of leadership may lead investors to overestimate (underestimate) the positive (negative) impact of CEO duality on firm performance. However, corporate scandals such as Enron and WorldCom may have created an overly negative perception of the combined positions. As a result, investors may underestimate (overestimate) the positive (negative) impact of CEO duality on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of CEO duality as follows:

*H<sub>a16</sub>: Investors do not correctly perceive the impact of CEO duality on firm performance and therefore price it incorrectly.*

The existing literature reports a significant increase in the number of companies in S&P 500 that separated CEO and chairmen roles after the corporate scandals in the US (e.g. see Sampson-Akpuru, 2009). In Thailand, many listed companies also separate the two roles. However, CEOs can have very close relationships with chairmen (they may be father and son, for example). Therefore, investors may recognise this feature and may not believe that CEOs and chairmen are actually independent from each other, in turn underestimating (overestimating) the positive (negative) impact of the separation of CEO and their positions on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of CEOs who come from the same (family) group as the chairmen as follows:

*H<sub>a17</sub>: Investors do not correctly perceive the impact of a CEO who comes from the same group as the chairman does on firm performance and therefore estimate it incorrectly.*

#### **6.3.2.2.2 CEO Founders and CEO Descendants**

As discussed in Chapter 2, CEO founders may contribute to firms in terms of their skill and experience in business (Morck et al., 1988), their political and business connections (Polsiri and Wiwattanakantang, 2004) and their long-term objectives in running the business.

However, a CEO founder may have a level of control over a board of directors that decreases its efficiency (Morck et al., 1988). Additionally, CEO founders may be motivated to transfer business to their descendants regardless of competence (Anderson and Reeb, 2003; Bertrand et al., 2008; Mehrotra et al., 2013; Morck et al., 1988).

While much of the existing research directly examines the effect of CEO founders on firm performance, there is a lack of evidence on the investor perceptions of this impact. In the context of Thailand, founders of family firms are normally famous people and have a good reputation in Thai society. Most of the founders of listed firms also have

good business connections with other business groups and the government (Bunkanwanicha and Wiwattanakantang, 2006). Therefore, investors may have overly positive perceptions of CEO founders' contribution to firm performance and therefore overestimate (underestimate) their positive (negative) impact on firm performance.

Alternatively, investors may doubt the competency and integrity of CEO founders. An overly negative perception may lead them to underestimate (overestimate) the positive (negative) impact of CEO founders on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of CEO founders as follows:

*H<sub>a18</sub>: Investors do not correctly perceive the impact of CEO founders on firm performance and therefore estimate it incorrectly.*

Although most founders of Thai listed companies are still alive, some of them have stepped down as CEOs and passed the position to their descendants. Investors who believed in the founders' competence may question the competence of their descendants. Previous research also addresses problem of business succession as a disincentive for firm to the hiring of outside professional CEOs (for example, see Mehrotra et al., 2013). An overly negative perception may lead investors to underestimate (overestimate) the positive (negative) impact of CEO descendants on firm performance.

Alternatively, investors may believe in the competence of CEO descendants. In fact, most famous family members in Thailand are attractive to the public and their background (such as education or personal life) is often reported in the press. Investors may therefore have an overly positive perception of the competence of CEO descendants and consequently overestimate (underestimate) the positive (negative) impact of CEO descendants on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of CEOs descendants as follows:

*H<sub>a19</sub>: Investors do not correctly perceive the impact of CEO descendants on firm performance and therefore estimate it incorrectly.*

### **6.3.2.3 Auditor Reputation and Expertise**

As discussed in Chapter 5, the credibility of external auditors may depend on their reputation and expertise and these characteristics may affect investors' confidence in the quality of reported earnings, because they cannot directly observe audit quality (DeAngelo, 1981; Teoh and Wong, 1993).

Nichols and Smith (1983) examined whether the market reacted positively when firms changed from non-Big 8 auditors to Big 8 auditors and negatively to changes in the opposite direction. They found a positive but not significant market reaction when firms moved from non-Big 8 to Big 8 auditors.

Teoh and Wong (1993) suggest that investors respond strongly to a reported earnings surprise if they have a positive perception of audit quality (based on the expertise of the auditors, for example). They tested for the difference in "earnings response coefficients"<sup>9</sup> (ERC) between firms audited by Big 8 and non-Big 8 firms and found that the former had larger ERCs than the latter, implying that investors have a positive perception of the credibility of auditors.

Based on relevant literature, investor perceptions of the impact of auditor reputation and experience on firm performance may be either very positive or negative. In Thailand, BIG4 audit firms have merged with large Thai auditing firms because Thai law limits accounting professionals to Thai nationals. Investors may think that more experienced auditors increase audit quality and are a good indication for effective whistleblower procedures. An overly positive expectation may lead them to overestimate (underestimate) the positive (negative) impact of long auditor tenure on firm performance.

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<sup>9</sup> According to Teoh and Wong (1993), ERC is a measurement of how new earnings information is incorporated into the stock price. Commonly, ERC is "a slope coefficient in a regression of abnormal stock returns on a measure of earnings surprise" (Teoh and Wong, 1993, 347).

Nevertheless, the big corporate scandals, such as ENRON, have revealed collusion between auditors and managers, which may create an overly negative perception of BIG4 auditors and lead investors to underestimate (overestimate) their positive (negative) impact on firm performance. Additionally, investors may view long auditor tenures as a sign of reduced auditor independence and therefore underestimate the impact of long auditor tenure on firm performance.

Therefore, this study proposes the hypotheses based on investor misperception of BIG4 auditors and auditor-partner tenure as follows:

*H<sub>a20</sub>: Investors do not correctly perceive the impact of the presence of BIG4 audit firm on firm performance and therefore estimate it incorrectly.*

*H<sub>a21</sub>: Investors do not correctly perceive the impact of auditor-partner tenure on firm performance and therefore estimate it incorrectly.*

### **6.3.3 The Corporate Governance Reforms**

As discussed in the previous chapters, one objective of the corporate governance reforms is to regain investors' confidence in the Thai capital market. The corporate governance reform, in particular accounting reforms, should have led to better disclosure and transparency, which in turn should help investors to use public accounting and non-accounting information to predict future earnings. Therefore, the reforms should have improved the accuracy of investor perceptions of the impact of ownership structure and other governance mechanisms on firm performance, if they were successful.

However, the findings from Chapters 4 and 5 do not strongly suggest that the impact of ownership structure and other corporate governance mechanisms on firm performance has improved after the reforms. Therefore, it is not clear overall how effective they were. In particular, the findings do not strongly support the notion that ownership structure and other corporate governance mechanisms have helped to limit the use of (opportunistic) managers' accounting discretion after the reforms. Nevertheless, they may have affected investor perceptions of corporate governance mechanisms, as the reforms have had a



high public profile and the expectation is that they should improve the effectiveness of corporate governance in Thailand.

Therefore, two further hypotheses, regarding the corporate governance reforms, are proposed as follows.

*H<sub>a22</sub>: Investors can better perceive the impact of ownership concentration on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a23</sub>: Investors can better perceive the impact of the presence of a dominant shareholder on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a24</sub>: Investors can better perceive the impact of family block ownership on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a25</sub>: Investors can better perceive the impact of government block ownership on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a26</sub>: Investors can better perceive the impact of foreign company block ownership on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a27</sub>: Investors can better perceive the impact of bank block ownership on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a28</sub>: Investors can better perceive the impact of non-bank financial institution block ownership on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a29</sub>: Investors can better perceive the impact of the presence of a dominant family shareholder on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a30</sub>: Investors can better perceive the impact of the presence of a dominant government shareholder on firm performance after the reforms; consequently, they more correctly estimate the impact.*

*H<sub>a31</sub>: Investors can better perceive the impact of the presence of a dominant foreign company shareholder on firm performance after the reforms; consequently, they more correctly estimate the impact.*

- H<sub>a32</sub>: Investors can better perceive the impact of the presence of a dominant non-bank financial institution shareholder on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a33</sub>: Investors can better perceive the impact of board size on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a34</sub>: Investors can better perceive the impact of board independence on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a35</sub>: Investors can better perceive the impact of board experience on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a36</sub>: Investors can better perceive the impact of the presence of the presence of CEO duality firm on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a37</sub>: Investors can better perceive the impact of the presence of a CEO and chairman who come from the same group on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a38</sub>: Investors can better perceive the impact of the presence of CEO founder on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a39</sub>: Investors can better perceive the impact of the presence of CEO descendant on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a40</sub>: Investors can better perceive the impact of the presence of a BIG4 audit firm on firm performance after the reforms; consequently, they more correctly estimate the impact.*
- H<sub>a41</sub>: Investors can better perceive the impact of auditor-partner tenure on firm performance after the reforms; consequently, they more correctly estimate the impact.*

## **6.4 Research Design**

### **6.4.1 The Mishkin Test (1983) in Accounting Research**

The Mishkin Test (MT) is a joint estimation of forecasting and pricing equations that uses a non-linear least square procedure to test for market efficiency in macroeconomic terms. The MT relies on the rational expectation hypothesis, which suggests that the

market's subjective expectation of any variable should be equal to the objective expectation for that variable, conditional on all past information (Mishkin, 1983).

The MT was first introduced into accounting research by Sloan (1996) in order to test how the market prices accounting numbers (such as earnings and earnings components). He suggests that “[a] meaningful test of whether stock prices fully reflect available information requires the specification of an alternative ‘naïve’ expectation model, against which to test the null of market efficiency” (Sloan, 1996: 291). He then employs the methodology developed by Mishkin (1983) to jointly test the two hypotheses.

In accounting research, the variable of interest is earnings (and earnings components). Therefore, the rational expectation hypothesis suggests that the expectation of earnings assessed by the market should be equal to the true earnings, conditional on all past information such as past earnings. That is,

$$E_m(\text{Earnings}_{t+1}|\phi_t) = E(\text{Earnings}_{t+1}|\phi_t) \quad (\text{A})$$

Where,

- $\phi_t$  = the set of the information available at time t
- $E_m(\text{Earnings}_{t+1}|\phi_t)$  = the subjective expectation of earnings for period t+1 accessed by the market
- $E(\text{Earnings}_{t+1}|\phi_t)$  = the objective expectation of earnings conditional on  $\phi_t$

Under the EMH, which focuses on holding period stock returns (for instance), the specification in equation A implies that

$$E(\text{Return}_{t+1}) = \text{Return}_{t+1} - E_m(\text{Return}_{t+1}|\phi_t) = 0 \quad (\text{B})$$

Where,

- $\text{Return}_{t+1}$  = the stock return in period t+1
- $E_m(\text{Return}_{t+1}|\phi_t)$  = the subjective expectation of the stock return in period t+1 ( $R_{t+1}$ ), conditional on all past information available at time t

The market efficient condition in equations A and B implies that  $R_{t+1} - E_m(R_{t+1} | \phi_t)$  should be uncorrelated with past information. Hence, abnormal return<sup>10</sup> is expected to be zero. Therefore, a model based on the market efficient condition from equation (A) and (B) is

$$\text{Return}_{t+1} = \beta(\text{Earnings}_{t+1} - E(\text{Earnings}_{t+1} | \phi_t)) + \varepsilon_{t+1} \quad (\text{C})$$

Where  $\varepsilon_{t+1}$  is an error term and  $E(\varepsilon_{t+1} | \phi_t) = 0$ . Under the efficient market conditions,  $\text{Return}_{t+1}$  should be only correlated with unexpected earnings but should not be correlated with any past information.

Based on the EMH, the MT applied in Sloan (1996) consists of two equations: a forecasting equation and a pricing equation. These are shown below:

$$\text{Forecasting Equation: } \text{Earnings}_{t+1} = \alpha_0 + \alpha_1 \text{Earnings}_t + v_{t+1} \quad (\text{D.1})$$

$$\text{Pricing Equation: } \text{Return}_{t+1} = \beta(\text{Earnings}_{t+1} - \alpha_0 - \alpha_1^* \text{Earnings}_t) + \varepsilon_{t+1} \quad (\text{D.2})$$

Past earnings ( $\text{Earnings}_t$ ) is used to predict future earnings ( $\text{Earnings}_{t+1}$ ) in the forecasting equation (D.1). The coefficient of  $\text{Earnings}_t$  ( $\alpha_1$ ) is a weight placed on past earnings in order to predict future earnings (earnings persistence). Under the EMH, the market's subjective expectation of earnings, conditional on past earnings in equation D.1 should be equal to the objective expectation of earnings obtained from equation D.2. Therefore, this implies that  $\alpha_1$ , the weight placed on past earnings in the forecast equation, should not be different from  $\alpha_1^*$ , the weight placed on past earnings in equation (D.2). Hence  $\alpha_1 = \alpha_1^*$ .

To test whether  $\alpha_1 = \alpha_1^*$ , the two equations are jointly estimated using a non-linear least square procedure. In addition,  $\alpha_0$  in the two equations are assumed to be the same. If  $\alpha_1$  is equal to  $\alpha_1^*$ , then the sum of squared residuals from the estimation constraining  $\alpha_1 = \alpha_1^*$  ( $\text{SSR}^c$ ) will not be different from the sum of squared residuals from the estimation

<sup>10</sup> Under the EMH, there should be no profit opportunities in the capital market on a given day's stock price. As a result, market participants are not expected to earn more than a normal return on their investment.

that allows  $\alpha_i$  differ from  $\alpha_i^*$  (SSR<sup>u</sup>). Therefore, the test statistic for a small sample, as suggested by Mishkin (1983; pp. 19 - 20), is a likelihood ratio test, which is asymptotically distributed Chi-square,  $q$  ( $\chi^2(q)$ ):

$$2 \times n \times \ln(\text{SSR}^c / \text{SSR}^u)$$

Where,

- $q$  = the number of constraints imposed by rational pricing
- $n$  = the number of observations in each equations
- $\text{SSR}^c$  = the sum of squared residuals from the constrained system
- $\text{SSR}^u$  = the sum of squared residuals from the unconstrained system

This procedure allows researchers to examine how well the capital market's participants use past earnings to predict future earnings, which is reflected in the stock price. After decomposing earnings into accruals and cash flows, Sloan (1996) applies the MT to test whether investors can perceive the different properties of the accruals and cash flow components of current earnings in order to predict future earnings. He hypothesises that investors are fixated on earnings and fail to distinguish persistence within the accruals and cash flow components of current earnings. The forecast equation and pricing equations are as follows:

$$\text{Forecasting Equation: Earnings}_{t+1} = \gamma_0 + \gamma_1 \text{Cash Flows}_t + \gamma_2 \text{Accruals}_t + v_{t+1} \quad (\text{E.1})$$

$$\text{Pricing Equation: Return}_{t+1} = \beta(\text{Earnings}_{t+1} - \gamma_0 - \gamma_1^* \text{Cash Flows}_t - \gamma_2^* \text{Accruals}_t) + \varepsilon_{t+1} \quad (\text{E.2})$$

The EMH implies that  $\gamma_1$  and  $\gamma_2$ , the weight placed on past cash flows and the accruals component of earnings in the forecast equation (E.1), should not be different from  $\gamma_1^*$  and  $\gamma_2^*$ , the weight placed on past cash flows and the accruals component of earnings in the pricing equation (E.2). Hence  $\gamma_1 = \gamma_1^*$  and  $\gamma_2 = \gamma_2^*$ .

After Sloan (1996), the MT has been used widely in accounting research to test the rational pricing of accounting numbers (for examples, see Chan et al., 2009; Hanlon,

2005; Pincus, 2007; Xie, 2001). However, Kraft et al. (2007) argue that much of the previous research in accounting misunderstands the use of the MT.

Firstly, Kraft et al. (2007) argue that Mishkin (1983) intended to test for market rationality; therefore, the test should be applied in economic research on time-series data. However, accounting research normally applies this methodology using pooled data across time and firms. Therefore, the estimations in the forecasting and pricing equations may suffer from cross-sectional correlations in error terms, a heteroskedasticity problem from size and industry effects.

Secondly, they argue that previous accounting research normally excludes variables other than past earnings, such as size, book to market ratio and lagged earnings, that could influence components of future earnings in the forecasting equation. If these variables are not rationally priced, the omitted variables lead to a misspecification of the statistical test of coefficients in the forecast and pricing equations. Hence if other variables that predict earnings are omitted from both the forecasting and the pricing equations, one can conclude whether the market is efficient but not whether accounting numbers are the source of the inefficiency.

In order to minimise the problem of omitted variables, a set of potential variables<sup>11</sup> ( $Z_t$ ) that might influence future earnings should be included in both the forecasting equation and the pricing equation as follows:

$$\text{Forecasting Equation: Earnings}_{t+1} = \gamma_0 + \gamma_1 \text{Cash Flows}_t + \gamma_2 \text{Accruals}_t + \gamma_3 Z_t + v_{t+1} \quad (\text{F.1})$$

$$\begin{aligned} \text{Pricing Equation: } \text{Return}_{t+1} = & \beta(\text{Earnings}_{t+1} - \gamma_0 - \gamma_1^* \text{Cash Flows}_t - \gamma_2^* \text{Accruals}_t \\ & - \gamma_3^* Z_t) + \epsilon_{t+1} \end{aligned} \quad (\text{F.2})$$

---

<sup>11</sup> According to Kraft et al. (2007), variables that are suggested in the existing literature for the prediction of future earnings and returns include the ratio of book to market value of equity (Fama and French, 1992), industry effect (Moskowitz and Grinblatt, 1999) and past returns (Jegadeesh and Titman, 1993).

### 6.4.2 The Ordinary Least Square Method (OLS)

Kraft et al. (2007) formally prove that the parameters and test statistics that are estimated from the MT, as discussed in Section 6.4.1, are asymptotically equivalent to those estimated using the OLS regression as follows:

$$\text{Return}_{t+1} = \phi_0 + \phi_1 \text{Cash Flows}_t + \phi_2 \text{Accruals}_t + \mu_t \quad (\text{G})$$

Using the system of equations (D.1) and (D.2) in the MT previously discussed:

$$\text{Forecasting Equation: } \text{Earnings}_{t+1} = \gamma_0 + \gamma_1 \text{Cash Flows}_t + \gamma_2 \text{Accruals}_t + v_{t+1} \quad (\text{D.1})$$

$$\text{Pricing Equation: } \text{Return}_{t+1} = \beta(\text{Earnings}_{t+1} - \gamma_0 - \gamma_1^* \text{Cash Flows}_t - \gamma_2^* \text{Accruals}_t) + \varepsilon_{t+1} \quad (\text{D.2})$$

Substituting the  $\text{Earnings}_{t+1}$  from the forecasting equation (D.1) into the pricing equation (D.2) results in the following equation:

$$\begin{aligned} \text{Return}_{t+1} = & \beta(\gamma_0 + \gamma_1 \text{Cash Flows}_t + \gamma_2 \text{Accruals}_t + v_{t+1} \\ & - \gamma_0 - \gamma_1^* \text{Cash Flows}_t - \gamma_2^* \text{Accruals}_t) + \varepsilon_{t+1} \end{aligned} \quad (\text{H})$$

Rearranging equation H gives

$$\begin{aligned} \text{Return}_{t+1} = & \beta(\gamma_0 - \gamma_0) + \beta(\gamma_1 - \gamma_1^*) \text{Cash Flows}_t \\ & + \beta(\gamma_2 - \gamma_2^*) \text{Accruals}_t + \beta v_{t+1} + \varepsilon_{t+1} \end{aligned} \quad (\text{I})$$

This can be written as

$$\text{Return}_{t+1} = \phi_0 + \phi_1 \text{Cash Flows}_t + \phi_2 \text{Accruals}_t + \phi_3 v_{t+1} + \mu_t \quad (\text{J})$$

Where  $\phi_i = \beta(\gamma_i - \gamma_i^*)$

Kraft et al. (2007) assert that the parameters estimated in equation J are asymptotically equivalent to the system of equations D.1 and D.2 except for  $v_{t+1}$ . The  $v_{t+1}$  is an error term from the forecasting equation and is assumed to be uncorrelated with  $\text{Cash Flows}_t$

and Accruals<sub>*t*</sub>. Kraft et al. (2007) suggest that when the sample is large<sup>12</sup>, the absence of  $v_{t+1}$  in equation M does not bias the coefficients of Cash Flows and Accruals. Because  $\beta$  is constant, a test whether the coefficients of Cash Flows and Accruals are statistically different from zero, using the OLS, is equivalent to a test whether  $\gamma_1 = \gamma_1^*$  and  $\gamma_2 = \gamma_2^*$  in the MT.

Kraft et al. (2007) also assert that the OLS method has some advantages over the MT. Firstly, the OLS method is easier and more convenient to implement than the MT is and, secondly, while the MT is used in macroeconomics and applied to time-series data, the OLS method is more appropriate for cross-sectional data. Thirdly, it allows researchers to easily add other explanatory variables and other control variables, for example, in order to correct for econometric problems such as heteroskedasticity. Finally, while Earnings<sub>*t+1*</sub> is used in the pricing equation under the MT, they are not required under the OLS method. The requirement for Earnings<sub>*t+1*</sub> could cause selection bias because it requires researchers to restrict the sample to cases that have information on future earnings available at time *t* (Kraft et al., 2006; 2007). Therefore, Kraft et al. suggest that researchers could consider the use of the OLS method instead of the MT to test for the mispricing of earnings.

### 6.4.3 The Test Procedures

According to Kraft et al. (2007), the existing literature suggests that investors may use other information to predict future earnings. Based on the arguments discussed in section 6.3, this study suggests that investors incorporate non-accounting information<sup>13</sup> in particular on ownership structure and other corporate governance mechanisms, in their prediction of firm's future earnings and stock returns. The accuracy of their predictions

<sup>12</sup> No absolute number is identified in the existing literature as constituting a large sample, but accounting research normally uses a sample of more than 10,000 firm-year observations, such as 14,106 firms-years (Hanlon, 2005), 111,838 firm-years (Kraft et al., 2009), 43,988 firm-years (Pincus et al., 2007), and 24,209 firm-years (Sloan, 1996).

<sup>13</sup> This information is publicly available because listed companies are required to disclose it in annual reports or annual registration statements.



is subject to their perceptions of the impact of these variables on firm performance. Hence if investors have a correct perception of the impact of ownership structure and other corporate governance mechanisms on firm performance, they will not overestimate or underestimate the price of relevance variables. However, investor perceptions might not be realistic, as they might wrongly believe that ownership and other corporate governance mechanisms do not matter, or that they matter more than they do in reality.

For the purposes of this study, the OLS method, as suggested by Kraft et al. (2007), is preferred over the MT because it is more suitable for the pooled cross-sectional it uses. It is also easier to apply an OLS approach in order to estimate and compare results between pre-reform and post-reform periods.

Hence the extended models take the following forms:

$$\begin{aligned} \text{BHAR}_{t+1} = & \phi_0 + \phi_1 \text{Concentrated Own}_{it} + \phi_2 \text{Share Difference}_{it} + \phi_3 \text{CV}_{it} \\ & + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} + \phi_6 \text{Board Experience}_{it} \\ & + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} + \phi_9 \text{CEO-Chair}_{it} \\ & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\ & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\ & + \phi_{15} \text{Industry dummy} + \phi_{16} \text{Year dummy} + \mu_t \end{aligned} \quad (6.1)$$

$$\begin{aligned} \text{BHAR}_{t+1} = & \phi_0 + \phi_1 \text{D\_Dominant}_{it} + \phi_2 \text{Share Difference}_{it} + \phi_3 \text{CV}_{it} \\ & + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} + \phi_6 \text{Board Experience}_{it} \\ & + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} + \phi_9 \text{CEO-Chair}_{it} \\ & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\ & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\ & + \phi_{15} \text{Industry dummy} + \phi_{16} \text{Year dummy} + \mu_t \end{aligned} \quad (6.2)$$

$$\begin{aligned} \text{BHAR}_{t+1} = & \phi_0 + \phi_1 \text{Family Own}_{it} + \phi_2 \text{Government Own}_{it} + \phi_3 \text{Foreign Company Own}_{it} \\ & + \phi_4 \text{Domestic Company Own}_{it} + \phi_5 \text{Bank Own}_{it} \\ & + \phi_6 \text{Non-bank Financial Institution Own}_{it} + \phi_7 \text{Share Difference}_{it} \\ & + \phi_8 \text{CV}_{it} + \phi_4 \text{Board Size}_{it} + \phi_9 \text{Board Independence}_{it} + \phi_{10} \text{Board Experience}_{it} \\ & + \phi_{11} \text{CEO Founder}_{it} + \phi_{12} \text{CEO Son/Daughter}_{it} + \phi_{13} \text{CEO-Chair}_{it} \\ & + \phi_{14} \text{CEO-Group}_{it} + \phi_{15} \text{BIG4}_{it} + \phi_{16} \text{Auditor Tenure}_{it} \\ & + \phi_{17} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{18} \text{Other Control Variables}_{it} \\ & + \phi_{19} \text{Industry dummy} + \phi_{20} \text{Year dummy} + \mu_t \end{aligned} \quad (6.3)$$

$$\begin{aligned}
\text{BHAR}_{t+1} = & \phi_0 + \phi_1 \text{D\_Family}_{it} + \phi_2 \text{D\_Government}_{it} + \phi_3 \text{D\_Foreign Company}_{it} \\
& + \phi_4 \text{D\_Domestic Company}_{it} + \phi_5 \text{D\_Bank}_{it} \\
& + \phi_6 \text{D\_Non-bank Financial Institution}_{it} + \phi_7 \text{Share Difference}_{it} \\
& + \phi_8 \text{CV}_{it} + \phi_9 \text{Board Size}_{it} + \phi_{10} \text{Board Independence}_{it} + \phi_{11} \text{Board Experience}_{it} \\
& + \phi_{12} \text{CEO Founder}_{it} + \phi_{13} \text{CEO Son/Daughter}_{it} + \phi_{14} \text{CEO-Chair}_{it} \\
& + \phi_{15} \text{CEO-Group}_{it} + \phi_{16} \text{BIG4}_{it} + \phi_{17} \text{Auditor Tenure}_{it} \\
& + \phi_{18} \text{Earnings}_{it} \text{ (or Earnings Components}_{it}) + \phi_{19} \text{Other Control Variables}_{it} \\
& + \phi_{20} \text{Industry dummy} + \phi_{21} \text{Year dummy} + \mu_t
\end{aligned} \tag{6.4}$$

Where  $\phi_i = \beta(\gamma_i - \gamma_i^*)$  and  $\text{BHAR}_{t+1}$  is one-year-ahead buy and hold abnormal stock returns.  $\text{Earnings}_{it}$  ( $\text{EBIT}_{it}$ ) is earnings before interests and taxes scaled by lagged total assets for each sample firm  $i$  at time  $t$ . In separated regression,  $\text{Earnings}_{it}$  components are total accruals ( $\text{TAC}_{it}$ ) and cash flows ( $\text{CF}_{it}$ ) components of earnings for each sample firm  $i$  at time  $t$  and are added as control variables. Other control variables include firm characteristics and other variables that could influence future earnings and future returns, as suggested in the literature. This study also added lagged variables of earnings and its components as other control variables ( $\text{EBIT}_{it-1}$ ,  $\text{TAC}_{it-1}$  and  $\text{CF}_{it-1}$ ) as suggested by Kraft et al., (2007). The details and measurements for these variables are discussed in the next section.

As discussed in Section 6.4.2, the test whether the coefficients of ownership and other corporate governance variables are statistically different from zero, using the OLS, is equivalent to a test whether coefficients of these variables in forecasting and pricing equation are equal using the MT. Therefore, if the coefficients of ownership structure and/or other corporate governance variables ( $\phi_i$ ) are statistically different from zero, they indicate that investors cannot correctly perceive the actual influence of these mechanisms on firm performance. A significantly positive sign of  $\phi_i$  indicates that investors underestimate (overestimate) the positive (negative) impact of these variables on firm performance (i.e.  $\gamma_i^* < \gamma_i$ ), and a significantly negative sign of  $\phi_i$  indicates that investors overestimate (underestimate) their positive (negative) impact (i.e.  $\gamma_i^* > \gamma_i$ ).

### 6.4.3.1 Test for Equality between Coefficients before and after the Corporate Governance Reforms

The specification models (Model 6.1 – 6.4) are separately estimated using sub-period samples, a pre-period (1994 – 1998) and post-period of the corporate governance reform (2000 – 2007). As in the previous chapters, the dummy variable approach as suggested by Gujarati (1970a, 1970b) is applied to test equality between sets of coefficients in the pre and post regressions. The single regressions are as following:

$$\begin{aligned}
 BHAR_{t+1} = & \phi_0 + \phi_1 \text{Concentrated Own}_{it} + \phi_2 \text{Share Difference}_{it} + \phi_3 CV_{it} \\
 & + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} + \phi_6 \text{Board Experience}_{it} \\
 & + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} + \phi_9 \text{CEO-Chair}_{it} \\
 & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\
 & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\
 & + \phi_{15} \text{Industry dummy} + \text{Post} \times [\phi_0 + \phi_1 \text{Concentrated Own}_{it} \\
 & + \phi_2 \text{Share Difference}_{it} + \phi_3 CV_{it} + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} \\
 & + \phi_6 \text{Board Experience}_{it} + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} \\
 & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\
 & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\
 & + \phi_{15} \text{Industry dummy}] + \mu_t \quad (6.5)
 \end{aligned}$$

$$\begin{aligned}
 BHAR_{t+1} = & \phi_0 + \phi_1 D\_Dominant_{it} + \phi_2 \text{Share Difference}_{it} + \phi_3 CV_{it} \\
 & + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} + \phi_6 \text{Board Experience}_{it} \\
 & + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} + \phi_9 \text{CEO-Chair}_{it} \\
 & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\
 & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\
 & + \phi_{15} \text{Industry dummy} + \text{Post} \times [\phi_0 + \phi_1 D\_Dominant_{it} + \phi_2 \text{Share Difference}_{it} \\
 & + \phi_3 CV_{it} + \phi_4 \text{Board Size}_{it} + \phi_5 \text{Board Independence}_{it} + \phi_6 \text{Board Experience}_{it} \\
 & + \phi_7 \text{CEO Founder}_{it} + \phi_8 \text{CEO Son/Daughter}_{it} + \phi_9 \text{CEO-Chair}_{it} \\
 & + \phi_{10} \text{CEO-Group}_{it} + \phi_{11} \text{BIG4}_{it} + \phi_{12} \text{Auditor Tenure}_{it} \\
 & + \phi_{13} \text{Earnings}_{it} (\text{or Earnings Components}_{it}) + \phi_{14} \text{Other Control Variables}_{it} \\
 & + \phi_{15} \text{Industry dummy}] + \mu_t \quad (6.6)
 \end{aligned}$$

$$\begin{aligned}
 BHAR_{t+1} = & \phi_0 + \phi_1 \text{Family Own}_{it} + \phi_2 \text{Government Own}_{it} + \phi_3 \text{Foreign Company Own}_{it} \\
 & + \phi_4 \text{Domestic Company Own}_{it} + \phi_5 \text{Bank Own}_{it} \\
 & + \phi_6 \text{Non-bank Financial Institution Own}_{it} + \phi_7 \text{Share Difference}_{it} \\
 & + \phi_8 CV_{it} + \phi_4 \text{Board Size}_{it} + \phi_9 \text{Board Independence}_{it} + \phi_{10} \text{Board Experience}_{it}
 \end{aligned}$$

$$\begin{aligned}
& + \phi_{11}\text{CEO Founder}_{it} + \phi_{12}\text{CEO Son/Daughter}_{it} + \phi_{13}\text{CEO-Chair}_{it} \\
& + \phi_{14}\text{CEO-Group}_{it} + \phi_{15}\text{BIG4}_{it} + \phi_{16}\text{Auditor Tenure}_{it} \\
& + \phi_{17}\text{Earnings}_{it} \text{ (or Earnings Components}_{it}) + \phi_{18}\text{Other Control Variables}_{it} \\
& + \phi_{19}\text{Industry dummy} + \text{Post} \times [\phi_0 + \phi_1\text{Family Own}_{it} + \phi_2\text{Government Own}_{it} \\
& + \phi_3\text{Foreign Company Own}_{it} + \phi_4\text{Domestic Company Own}_{it} + \phi_5\text{Bank Own}_{it} \\
& + \phi_6\text{Non-bank Financial Institution Own}_{it} + \phi_7\text{Share Difference}_{it} \\
& + \phi_8\text{CV}_{it} + \phi_9\text{Board Size}_{it} + \phi_{10}\text{Board Independence}_{it} + \phi_{11}\text{Board Experience}_{it} \\
& + \phi_{11}\text{CEO Founder}_{it} + \phi_{12}\text{CEO Son/Daughter}_{it} + \phi_{13}\text{CEO-Chair}_{it} \\
& + \phi_{14}\text{CEO-Group}_{it} + \phi_{15}\text{BIG4}_{it} + \phi_{16}\text{Auditor Tenure}_{it} \\
& + \phi_{17}\text{Earnings}_{it} \text{ (or Earnings Components}_{it}) + \phi_{18}\text{Other Control Variables}_{it} \\
& + \phi_{19}\text{Industry dummy}] + \mu_t \tag{6.7}
\end{aligned}$$

$$\begin{aligned}
\text{BHAR}_{t+1} = & \phi_0 + \phi_1\text{D\_Family}_{it} + \phi_2\text{D\_Government}_{it} + \phi_3\text{D\_Foreign Company}_{it} \\
& + \phi_4\text{D\_Domestic Company}_{it} + \phi_5\text{D\_Bank}_{it} \\
& + \phi_6\text{D\_Non-bank Financial Institution}_{it} + \phi_7\text{Share Difference}_{it} \\
& + \phi_8\text{CV}_{it} + \phi_9\text{Board Size}_{it} + \phi_{10}\text{Board Independence}_{it} + \phi_{11}\text{Board Experience}_{it} \\
& + \phi_{11}\text{CEO Founder}_{it} + \phi_{12}\text{CEO Son/Daughter}_{it} + \phi_{13}\text{CEO-Chair}_{it} \\
& + \phi_{14}\text{CEO-Group}_{it} + \phi_{15}\text{BIG4}_{it} + \phi_{16}\text{Auditor Tenure}_{it} \\
& + \phi_{17}\text{Earnings}_{it} \text{ (or Earnings Components}_{it}) + \phi_{18}\text{Other Control Variables}_{it} \\
& + \phi_{19}\text{Industry dummy} + \text{Post} \times [\phi_0 + \phi_1\text{D\_Family}_{it} + \phi_2\text{D\_Government}_{it} \\
& + \phi_3\text{D\_Foreign Company}_{it} + \phi_4\text{D\_Domestic Company}_{it} + \phi_5\text{D\_Bank}_{it} \\
& + \phi_6\text{D\_Non-bank Financial Institution}_{it} + \phi_7\text{Share Difference}_{it} \\
& + \phi_8\text{CV}_{it} + \phi_9\text{Board Size}_{it} + \phi_{10}\text{Board Independence}_{it} + \phi_{11}\text{Board Experience}_{it} \\
& + \phi_{11}\text{CEO Founder}_{it} + \phi_{12}\text{CEO Son/Daughter}_{it} + \phi_{13}\text{CEO-Chair}_{it} \\
& + \phi_{14}\text{CEO-Group}_{it} + \phi_{15}\text{BIG4}_{it} + \phi_{16}\text{Auditor Tenure}_{it} \\
& + \phi_{17}\text{Earnings}_{it} \text{ (or Earnings Components}_{it}) + \phi_{18}\text{Other Control Variables}_{it} \\
& + \phi_{19}\text{Industry dummy}] + \mu_t \tag{6.8}
\end{aligned}$$

Where *Post* is an indicator variable, which is equal to 1 for periods after the reform (2000 - 2007) and is equal to 0 for periods before the reform (1994 - 1998).

The significantly *positive* sign of the coefficient of (*Post* × variable) indicates the negative incremental effect. In other words, investors may have more negative misperception of ownership and/or governance variable in the *post*-reform period than in the *pre*-reform period leading to a significant positive stock return in the following year.

In the context of the Thai capital market, this could imply that the reforms have some degrees of success in increasing investors' confidence over the Thai capital market.

On the other hand, the significantly *negative* sign of coefficient of ( $Post \times \text{variable}$ ) indicates the positive incremental effect. In other words, investors may have more positive misperception of ownership and/or governance variable in the *post*-reform period than in the *pre*-reform period leading to a significant negative stock return in the following year. In the context of the Thai capital market, this could imply that the reforms might not play a successful role in increasing investors' confidence over the Thai capital market.

The Wald test is also performed in order to test whether the coefficients of variables in the post-reform period ( $\beta_{Post} = \beta_{Pre} + \text{incremental effect}$ ) significantly differ from those in the pre-reform period ( $\beta_{Pre}$ ). As in the previous chapters, the Wald tests are computed by using “test” command in Stata. The null hypothesis is that  $\beta_{post} = \beta_{pre}$ , which is equivalent to  $\beta_{Post} - \beta_{Pre} = 0$ . The rejection of the null hypothesis indicates that  $\beta_{post}$  is significantly different from  $\beta_{Pre}$ .

## 6.4.4 Variable Measurements

### 6.4.4.1 Abnormal Stock Returns

This study measures one-year-ahead abnormal stock returns ( $BHAR_{t+1}$ ) as the difference between a firm's 12-month buy-and-hold returns and the buy-and-hold returns of the SET market in the same period. Stock returns include dividends and their measurement begins four months after a firm's previous fiscal year ended (31 December). For example, a measurement of the one-year-ahead returns for the fiscal year 2007 ( $BHAR_{t+1}$ ) is measured from 1 May 2007 to 30 April 2008.

In fact, the SECT requires listed companies to submit an annual financial report within three months of their fiscal year ending. Therefore, the four-month period used in this study ensures that information on financial reports is publicly available. This period also is consistent with previous studies such as Kraft et al. (2007) and Sloan (1996).

As previously discussed, one-year-ahead abnormal stock returns should not be systematically observed under the EMH. Hence observed abnormal stock returns imply that the capital market is not efficient because market participants can use past information on stock prices to earn abnormal stock returns.

#### ***6.4.4.2 Variables of Ownership Structure and Other Corporate Governance Mechanisms***

As in Chapters 4 and 5, ownership concentration was measured by the percentage of shares owned by the largest shareholders. Given the different behavioural incentives of different types of shareholders, this study differentiated ownership concentration by shareholder types, which were family, government, foreign company, domestic company, bank and non-bank financial institutional investors. As discussed in previous chapters, it is unlikely that shareholders within a group cooperate in their control efforts with each other. Therefore, ownership concentration by shareholder type was measured by the percentages of shares held by the largest shareholder in each category.

As in previous chapters, this study identified shareholders as a dominant shareholder if they own shares at least 25% and are the largest shareholders of the firm.

This study also includes a ratio of the share difference between the largest shareholder and the second largest shareholder (Share Difference) as control variables. A lower ratio indicates a smaller gap between the proportion of shares owned by the largest shareholder and that owned by the second largest shareholder and reflects an increase in the power of the second largest shareholder to control the largest shareholder.

If investors have positive perceptions of the impact of the largest shareholder on firm performance, they may believe that the largest shareholder, who has near absolute control (a high ratio of share difference), provides better monitoring because the largest shareholder do not have to spend time and effort to negotiate with other large shareholders about monitoring process. Hence they may not recognise the second largest shareholder as a corporate governance mechanism that effectively controls the largest shareholders (La Porta et al., 1999; Pagano and Röell, 1998).

However, if investors have negative perceptions of the impact of the largest shareholders on firm performance, they may see share difference as very (perhaps too) important.

This study also includes a ratio of cash flow rights over voting rights (CV). As discussed in Chapters 2 and 4, lower cash flow rights, relative to control rights, indicate a high possibility that dominant shareholders can engage in exploitation at less cost to themselves (Fan and Wong 2002).

In practice, investors might not be actually aware of the impact of share difference and CV issues because they may not access to this information. For example, working out share difference and in particular CV requires tracing ownership data. In particular, the CV ratio requires the tracing of complex pyramidal or cross-shareholding. Therefore, investors might ignore the impact of these variables on firm performance.

The variables used for board structure, CEO characteristics and audit reputation and expertise were the same as those discussed in previous chapters. Definitions of these variables are provided again in Table 6.1.

#### ***6.4.4.3 Earnings, Earnings Components and Lagged Variables***

In this chapter, the main variables of interest are ownership and other corporate governance variables, rather than accounting information variables. Therefore, earnings and earnings components and their lagged variables are treated just like other control variables.

Broadly speaking, accounting research focuses on the role of accounting earnings and their components in predicting future earnings and suggests that investors can use current earnings and their components, such as cash flows and total accruals, to predict future earnings because they have the property of “persistence”<sup>14</sup> (Schipper and Vincent, 2003; Dechow et al., 2010). However, the existing literature suggests that cash flows

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<sup>14</sup> Lipe (1990, cited in Schipper and Vincent, 2003: 99) defines earnings persistence as an autocorrelation of earnings that “captures the extent to which the current period innovation becomes a permanent part of the earnings series.” According to Kormendi and Lipe (1987: 326), earnings innovation is “the new information contained in current-period earnings.”

should have higher persistence than total accruals and should be better predictors of future earnings. However, investors may “fixate” on earnings and fail to distinguish this information until it actually impacts future earnings (for example, see Sloan, 1996). Therefore, this study includes current earnings ( $EBIT_t$ ) as control variables.

Additionally, accounting research suggests that investors may use components of earnings in order to predict future earnings and returns. Therefore, this study also decomposes earnings into current cash flows ( $CF_t$ ) and total accruals ( $TAC_t$ ) components of earnings and uses them as control variables in the separated regression. According to the EMH, investors should correctly perceive the ability of cash flows and accruals to predict future earnings and will not overestimate or underestimate the ability of earnings, accruals and the cash flow components of earnings to predict future earnings.

This study also includes one-year lagged values of earnings ( $EBIT_{t-1}$ ), cash flows ( $CF_{t-1}$ ) and the accruals ( $TAC_{t-1}$ ) components of earnings, as suggested by Kraft et al. (2007), because investors may use current performance as well as past performance to predict future firm performance.

#### ***6.4.4.4 Other Control Variables***

The existing literature suggests that firm characteristics, such as firm size, book-to-market ratio, leverage, sales growth and past returns, may influence cross-sectional variation in average stock returns, and Kraft et al. (2007: 1089) argue that these variables should be included in the MT’s forecasting equation in order to minimise the problem of omitted variables. Therefore, this study includes them as other control variables.

##### ***6.4.4.4.1 Firm Size and Book-to-Market Value of Equity***

Regarding firm size, the existing research suggests that there is a relationship between firm size and stock returns. In the US stock markets, Banz (1981) found that smaller firms measured by market value of equity (ME) were associated with higher risk



adjusted returns than larger firms were. Fama and French (1992) report evidence that confirms this, showing a negative relationship between firm size and average stock returns.

Regarding the book-to-market ratio (BE/ME), a high (low) ratio indicates that a firm has a high (low) book value of equity relative to market value of equity. Hence firms with a high (low) BE/ME tend to have lower (higher) growth.

Fama and French (1992) found that BE/ME were positively associated with average stock returns. Chan et al. (1991) also confirm that BE/ME was one of the most powerful factors that had a positive effect on stock returns in Japan.

Fama and French (1993) provide evidence suggesting that both firm size (ME) and book-to-market ratio (BE/ME) are common risk factors that can explain cross-sectional variation in stock returns. They argue that smaller firms and/or firms with a high BE/ME tend to have lower firm performance (such as ROA) and may suffer for longer during an economic depression than larger firms do. Hence investors may require higher returns in order to compensate for higher fundamental risk in smaller firms and high BE/ME firms (Daniel and Titman, 1997).

However, Lakonishok et al. (1994) argue that this return pattern may not be fully driven by risk factors but by investor perceptions. For example, investors may overreact to stocks that had good (bad) performance in the past and, in turn, overbuy (oversell) them, so the stock becomes overpriced (underpriced). They also found that investors tend to rely too much on past earnings growth when predicting future returns.

This study emulates others in the existing literature by including firm size and the ratio of book-to-market value of equity as control variables. No attempt is made to distinguish whether these factors are driven by firm characteristics or risk factors. Firm size is a natural log of market capitalisation and the ratio of book-to-market value of equity (BE/ME) is the book value of common equity divided by the market value of common equity.

#### ***6.4.4.4.2 Leverage, Sales Growth, Firm Age and Past Abnormal Stock Return***

Since widely published research suggests that the following variables impact on stock returns, this study expects them to also influence investors' perceptions of future returns.

Regarding leverage, Bhandari (1988) found that leverage was positively associated with stock returns, even after controlling for firm size and risk (Beta). He suggests that firms with high ratios of leverage tend to have high risk and therefore investors required higher returns as risk compensation. This study therefore controls for leverage, which is measured by the ratio of debt to book value of equity.

Regarding sales growth, investors may over expect long-run future sales and growth of earnings in stock that have had high sales and earnings growth in the past (in the short term), which in turn leads to a higher price of stock (Lakonishok et al., 1994; Skinner and Sloan 2002). The overoptimistic expectations are then recognised over time, subsequently leading to lower stock returns (Skinner and Sloan, 2002). Jegadeesh and Livnat (2006) suggest that investors may use sales growth as incremental information to predict future earnings because sales are less subject to managers' accounting discretion. Therefore, this study adds sales growth as another control variable in order to control for past growth. Sales growth is calculated as an average of annual change in sales over 3 years, prior to the current year.

A small number of studies suggest that firm age may influence stock returns. For example, Clark (2002) found a significant positive relationship between firm age at IPO and after-IPO abnormal returns. Therefore, this study adds firm age as another control variable and measures it by natural log of the number of years since a firm was established.

Finally, Jegadeesh and Titman (1993) found that investors tended to use past stock price (3 to 12 months) to predict future returns. Hence stock returns tended to have short-term persistence in the sense that stock that has performed well in the past tends to perform well in the near future. They also show that investors gained abnormal returns from

buying past winner and selling past loser stocks. Therefore, this study adds a lagged variable of one-year-ahead buy-and-hold abnormal returns<sup>15</sup> (BHAR<sub>*t*</sub>) as another control variable because it may have some influence on the prediction of future earnings and returns.

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<sup>15</sup> For example, the BHAR<sub>*t*</sub> of the fiscal year 2007 was calculated from 1 May 2006 to 30 April 2007.

**Table 6.1: Summary of All Dependent and Explanatory Variables used in Chapter 6****Dependent Variables: Buy and Hold Abnormal Returns**

<b>Variables</b>	<b>Description</b>
$BHAR_{t+1}$	12-month buy and hold abnormal returns at time t+1

**Explanatory Variables: Ownership Variables and Control Mechanisms**

<b>Variables</b>	<b>Description</b>
Concentrated Own	Percentage of shares owned by the largest shareholder
Family Own	Percentage of shares owned by family who is the largest shareholder in family shareholder's category
Government Own	Percentage of shares owned by government who is the largest shareholder in government shareholder's category
Foreign Company Own	Percentage of shares owned by foreign company who is the largest shareholder in foreign company shareholder's category
Domestic Company Own	Percentage of shares owned by domestic company who is the largest shareholder in domestic company shareholder's category
Bank Own	Percentage of shares owned by bank who is the largest shareholder in bank shareholder's category
Non-Bank Financial institutions Own	Percentage of shares owned by non-bank financial institutions who is the largest shareholder in non-bank financial institutions shareholder's category (excluded insurance companies)
D_Dominant	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
D_Family	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the family largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
D_Government	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the government largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
D_Foreign Investors	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the foreign company largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
D_Domestic Company	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the domestic company largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
D_Bank Own	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the bank largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero

(This table is continued on the next page)

**Table 6.1: Summary of All Dependent and Explanatory Variables used in Chapter 6 (Cont')****Explanatory Variables: Ownership Variables**

<b>Variables</b>	<b>Description</b>
<b>Explanatory Variables: Ownership Variables and Control Mechanisms (Cont')</b>	
D_Non-Bank Financial institutions	Dummy variable equal to one if firm has a presence of a dominant shareholder who is the non-bank financial institutions largest shareholder and own equal or more than 25% of voting shares, otherwise equal to zero
Ratio of Share Difference	Shares difference between the largest and the second largest shareholders divided by shares owned by the largest shareholder
CV	Ratio of cash-flow rights to voting rights
<b>Board Structure</b>	
Board Size	Natural log of number of directors in the board
Board Independence	Number of Independent directors divided by total number of directors in the board
Board Experience	Number of directors who are directors of other companies divided by total number of directors in the board
<b>CEO Characteristics</b>	
CEO Founder	Dummy variable, which equal to one if CEO is also a founder of the firm, otherwise as zero
CEO Son/Daughter	Dummy variable, which equal to one if CEO is founder's descendants, otherwise as zero
CEO-Chair	Dummy variable, which equal to one if CEO serves as the chairman, otherwise as zero
CEO-Group	Dummy variable, which equal to one if CEO and chairman come from the same family, otherwise as zero
<b>Auditor Reputation and Expertise</b>	
BIG4	Dummy variable equal to one if firm is audited by Big 4 firms, otherwise equal to zero
Audit Partner Tenure	Dummy variable equal to one if the same audit partner audits the firm at least 5 years or more.
<b>Control Variables: Earnings, Earnings Components and Lagged Variables</b>	
$EBIT_{t+1}$	Earnings before interests and taxes at time t+1, scaled by lagged total assets
$EBIT_t$	Earnings before interests and taxes at time t, scaled by lagged total assets
$TAC_t$	Total Accruals at time t = [ $\Delta$ current assets – $\Delta$ cash] less [ $\Delta$ current liabilities] less Depreciation and amortisation, scaled by lagged total assets (Jones, 1991)
$CF_t$	$EBIT_t - TAC_t$

(This table is continued on the next page)

**Table 6.1: Summary of All Dependent and Explanatory Variables used in Chapter 6 (Cont')****Other Corporate Governance Mechanisms**

<b>Variables</b>	<b>Description</b>
<b>Control Variables: Earnings, Earnings Components and Lagged Variables</b>	
$EBIT_{t-1}$	Earnings before interests and taxes at time t-1, scaled by lagged total assets
$TAC_{t-1}$	Total accruals at time t-1
$CF_{t-1}$	CF at time t-1
<b>Control Variables: Firm Characteristics</b>	
Firm Size	Natural log of market capitalisation at the year ended 31 December
Firm Age	Natural log of number of year since established
Sales Growth	An average of annual change in sales, average over three years, or available years, prior to the current year
Leverage	Ratio of total debt to total assets (at the year ended 31 December)
Book-to-Market ratio	A ratio of book value of equity to market value of equity at the year ended 31 December
$BHAR_t$	12-month buy and hold abnormal returns at time t

## 6.5 Sampling and Data Collection

Consistent with previous chapters, this chapter uses a sample of non-financial firms that were listed in the SET between 1994 and 2007. In addition, the sample was divided into the periods before and after the corporate governance reforms. The year 1999 was a cut-off year in order to reduce any effects of the transition period and firms in the rehabilitation sector were excluded, as in the previous chapters. The cases that contained missing data in the sample were also excluded from observations, which resulted in an unbalanced sample size for each model.

In order to avoid selection bias, this study applies no other criteria for data selection. As a result, the sample sizes for each regression vary, subject to data availability. Information about stock price, ownership structure and accounting data were obtained mostly from the SETSMART database. Procedures for collecting ownership and other corporate governance data are discussed in the previous chapters. All variables were winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles and definitions of all variables are summarised in Table 6.1.

## 6.6 Results

### 6.6.1 Descriptive Statistics Analysis – Full Sample

The sample contained 3,513 firm-year observations in regressions (A), which are included earnings as one of control variables. However, the sample size was reduced to 2,882 firm-year observations in regressions (B), which are included cash flows and total accruals components of earnings as control variables. This is because data for total accruals calculation is missing. Table 6.2 provides descriptive statistics based on the earnings components sample.

On average, one-year-ahead buy-hold abnormal returns ( $BHAR_{t+1}$ ) are 7.70% of lagged total assets suggesting that investors may have received an average gain above the market from their shares. This could imply that the Thai capital market might not be efficient.

Regarding ownership structure, the largest shareholders held an average of 41.95% of the shares and the largest family shareholders owned about 35.42%, which suggests that most of them were also dominant shareholders. On average, the largest shareholders in each other shareholders' types owned shares between 1% and 10%.

The ratio of share difference between the largest and the second largest shareholders is about 0.637. The ratio indicates a large difference in the proportion of shares owned by the second largest shareholder and the largest shareholder. The ratio of cash flow to control rights of owners is about 0.848, indicating a small gap between the two rights.

The Pearson and Spearman correlation matrix is presented in Panels A and B in Table 6.3. The two correlation matrixes suggest that there are some significant correlations between variables such as ownership variables by types of shareholder. This suggests that there might be an imperfect multicollinearity problem. This study therefore includes the VIF test in the sensitivity tests.



Table 6.2: Descriptive Statistics - Full Sample during 1994 to 2007

	No.	Mean	Median	SD	Maximum	Minimum
<b>Firm Characteristics (Million Baht)</b>						
Total Current Assets	3,513	3,100	953	10,300	316,000	6.61
Total Current Liabilities	3,513	2,811	784	9,657	245,000	0.47
Total Assets	3,513	9,265	2327	32,600	892,000	64.43
Total Liabilities	3,513	5,519	1128	20,100	494,000	0.47
BV of Shareholders' Equity	3,513	3,526	1069	12,200	361,000	-23,600
Market Capitalisation	3,513	7,267	1025	35,300	1,060,000	2.16
Total Sales Revenues	3,513	7,136	1747	41,700	1,500,000	-646
Depreciation	3,031	439	92	1,616	28,500	-4.51
<b>One-Year-Ahead Buy and Hold Abnormal Return</b>						
BHAR <sub>t+1</sub>	3,513	0.077	-0.031	0.639	2.848	-1.309
<b>Ownership Structure, Other Corporate Governance and Control Variables</b>						
<b>Ownership Variables</b>						
<i>Ownership Concentration by the Largest Shareholders</i>						
Concentrated Own	3,513	41.95%	41.40%	18.08%	83.80%	7.50%
<i>Ownership Concentration by the Largest Shareholders within each Type</i>						
Family	3,513	35.42%	35.80%	21.70%	83.30%	0.00%
Government	3,513	1.32%	0.00%	6.74%	47.90%	0.00%
Foreign company	3,513	9.98%	3.80%	14.69%	66.80%	0.00%
Domestic company	3,513	2.17%	0.00%	7.30%	51.60%	0.00%
Bank	3,513	1.03%	0.00%	2.44%	12.20%	0.00%
Non-Bank Financial Institutions	3,513	2.42%	1.20%	3.47%	19.80%	0.00%
<b>Other Corporate Governance Mechanisms</b>						
<i>Control Mechanisms</i>						
Ratio of Share Difference	3,513	0.637	0.726	0.281	0.982	0.010
Ratio of Cash Flow Rights to Voting Rights (CV)	3,513	0.848	1.000	0.248	1.000	0.085

**Note:** All variables are winsorised at 1 and 99 percentiles

(This table is continued on the next page)

Table 6.2: Descriptive Statistics - Full Sample during 1994 to 2007 (Cont')

	No.	Mean	Median	SD	Maximum	Minimum
<b>Other Corporate Governance Mechanisms (Cont')</b>						
<i>Board Structure</i>						
Number of Total Directors	3,513	12.336	12	3.903	32	1
Number of Independent Directors	3,513	5.079	6	2.484	18	0
Number of Directors who are appointed in Multiple Companies	3,513	5.045	4	3.805	26	0
Board Size	3,513	2.467	2.485	0.298	3.219	1.792
Board independence	3,513	0.433	0.429	0.218	1.000	0.080
Board Experience	3,513	0.392	0.375	0.242	0.933	0.000
<i>External Auditor</i>						
Auditor-Partner Tenure	3,513	6.383	6	3.843	18	1
<b>Control Variables</b>						
<i>Earnings, Earnings Components and Lagged Variables (Scaled by Lag Total Assets)</i>						
EBIT <sub>t+1</sub>	3,508	0.076	0.080	0.108	0.345	-0.399
EBIT <sub>t</sub>	3,513	0.085	0.086	0.101	0.356	-0.290
CF <sub>t</sub>	2,882	0.127	0.131	0.177	0.630	-0.629
TAC <sub>t</sub>	2,882	-0.042	-0.047	0.156	0.603	-0.531
EBIT <sub>t-1</sub>	3,513	0.094	0.091	0.101	0.413	-0.233
CF <sub>t-1</sub>	2,882	0.128	0.132	0.186	0.658	-0.653
TAC <sub>t-1</sub>	2,882	-0.037	-0.044	0.165	0.656	-0.506
<i>Other Control Variables</i>						
Number of Year Since Established	3,513	24	21	15	131	2
Firm Age (ln Age)	3,513	3.035	3.045	0.525	4.466	1.609
Leverage	3,513	0.498	0.499	0.245	1.322	0.040
Sales Growth	3,513	0.175	0.104	0.370	2.778	-0.408
Firm Size (ln MV)	3,513	14.001	13.840	1.650	18.507	10.587
Book to Market Ratio	3,513	1.282	0.984	1.428	7.858	-6.193
BHAR <sub>t</sub>	3,513	0.050	-0.059	0.649	2.888	-1.397

**Note:** All variables are winsorised at 1 and 99 percentiles

All variables definitions are provided in Table 6.1

**Table 6.3: Pearson Correlation Matrix and Spearman Correlation Matrix**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,513 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisk (\*) denotes statistical significance at 1% level.

		Panel A: Pearson Correlation Matrix											
Variables		1	2	3	4	5	6	7	8	9	10	11	12
1	BHAR <sub>t+1</sub>	1.000											
2	Concentrated Own	0.010	1.000										
3	Family Own	0.012	0.708*	1.000									
4	Government Own	0.015	0.013	-0.241*	1.000								
5	Foreign Com. Own	-0.001	0.022	-0.452*	-0.039	1.000							
6	Domestic Com. Own	-0.017	-0.038	-0.284*	0.001	-0.004	1.000						
7	Bank Own	0.012	-0.117*	-0.154*	0.039	-0.069*	0.108*	1.000					
8	Non- Bank Fin. Own	0.020	-0.142*	-0.151*	-0.038	-0.041	0.076*	0.028	1.000				
9	Ratio of Share Difference	-0.013	0.734*	0.542*	-0.013	-0.175*	-0.058*	-0.085*	-0.120*	1.000			
10	CV	-0.012	-0.123*	-0.181*	0.037	0.110*	-0.069*	-0.107*	0.088*	-0.088*	1.000		
11	Board Size	0.010	-0.124*	-0.102*	0.166*	0.031	0.058*	0.132*	-0.044*	-0.142*	-0.296*	1.000	
12	Board Independence	-0.072*	0.087*	0.011	-0.002	0.057*	-0.042	-0.057*	-0.149*	0.055*	0.167*	-0.319*	1.000
13	Board Experience	0.015	0.092*	0.093*	0.131*	-0.041	0.005	0.171*	-0.080*	0.102*	-0.321*	0.213*	-0.090*
14	CEO Founder	0.005	-0.073*	0.074*	-0.104*	-0.161*	-0.071*	-0.105*	-0.022	-0.016	0.174*	-0.129*	0.083*
15	CEO Descendant	0.001	0.1753*	0.253*	-0.067*	-0.091*	-0.082*	-0.016	-0.031	0.156*	-0.033	0.081*	0.018
16	CEO-Chair	-0.008	0.012	0.131*	-0.075*	-0.126*	-0.087*	-0.087*	-0.023	0.059*	0.091*	-0.101*	0.091*
17	CEO-Group	-0.003	0.192*	0.248*	-0.075*	-0.085*	-0.032	-0.009	-0.078*	0.168*	0.047*	-0.019	0.046*
18	BIG 4	-0.040	-0.064*	-0.178*	-0.018	0.281*	0.076*	0.033	-0.056*	-0.094*	0.094*	-0.002	0.057*
19	Audit Partner Tenure	0.059*	0.030	0.031	0.021	-0.050*	-0.035	0.034	0.030	0.034	-0.042	-0.013	-0.155*
20	EBIT <sub>t</sub>	-0.021	0.099*	0.039	0.073*	0.063*	-0.024	-0.049*	-0.056*	0.081*	-0.011	-0.072*	-0.006
21	EBIT <sub>t-1</sub>	-0.050*	0.088*	0.048*	0.054*	0.039	-0.023	-0.067*	-0.039	0.080*	0.009	-0.107*	-0.033
22	Firm Size	-0.162*	0.006	-0.112*	0.254*	0.143*	0.011	-0.037	-0.167*	0.047*	-0.029	0.186*	0.081*
23	Firm Age	-0.008	0.072*	0.025	-0.121*	0.134*	0.027	0.012	-0.107*	0.023	-0.015	0.086*	0.147*
24	Sales Growth	-0.067*	-0.057*	-0.076*	0.097*	-0.012	-0.017	-0.004	-0.012	0.007	0.009	-0.029	-0.046*
25	Leverage	0.022	-0.017	0.024	0.014	-0.085*	-0.003	0.043	0.063*	0.023	0.015	-0.011	-0.118*
26	Book-to-Market Ratio	0.155*	-0.014	0.016	-0.047*	-0.051*	-0.008	-0.008	0.080*	-0.009	-0.044*	0.012	-0.099*
27	BHAR <sub>t</sub>	-0.061*	0.010	0.004	0.023	0.012	-0.020	0.016	0.011	-0.015	-0.001	0.031	0.020

(This table is continued on the next page)

**Table 6.3: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,513 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisk (\*) denotes statistical significance at 1% level.

		<b>Panel A: Pearson Correlation Matrix (Cont')</b>											
<b>Variables</b>		<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
13	Board Experience	1.000											
14	CEO Founder	-0.163*	1.000										
15	CEO Descendant	0.043	-0.214*	1.000									
16	CEO-Chair	-0.043	0.474*	0.065*	1.000								
17	CEO-Group	-0.027	-0.103*	0.509*	-0.174*	1.000							
18	BIG 4	0.108*	-0.042	-0.041	-0.067*	-0.059*	1.000						
19	Audit Partner Tenure	-0.011	-0.049*	-0.037	-0.029	0.006	-0.081*	1.000					
20	EBIT <sub><i>t</i></sub>	0.016	-0.014	-0.009	-0.021	0.030	0.017	0.102*	1.000				
21	EBIT <sub><i>t-1</i></sub>	-0.013	0.012	-0.028	0.004	0.022	0.026	0.089*	0.629*	1.000			
22	Firm Size	0.296*	-0.132*	0.044*	-0.048*	-0.014	0.207*	-0.082*	0.344*	0.307*	1.000		
23	Firm Age	0.094*	-0.078*	0.043	-0.020	0.083*	0.046*	-0.021	0.019	-0.021	-0.086*	1.000	
24	Sales Growth	0.074*	-0.002	-0.025	-0.030	-0.027	0.071*	-0.026	0.160*	0.156*	0.262*	-0.244*	1.000
25	Leverage	0.089*	0.065*	0.014	0.034	0.033	0.003	-0.046*	-0.319*	-0.275*	-0.083*	-0.164*	0.044*
26	Book-to-Market Ratio	-0.051*	0.036	-0.002	0.011	-0.032	-0.069*	0.058*	-0.152*	-0.156*	-0.395*	0.057*	-0.099*
27	BHAR <sub><i>t</i></sub>	0.001	0.010	0.013	0.005	0.017	-0.051*	0.038	0.123*	-0.046*	-0.024	0.001	-0.032
		<b>25</b>	<b>26</b>	<b>27</b>									
25	Leverage	1.000											
26	Book-to-Market Ratio	-0.192*	1.000										
27	BHAR <sub><i>t</i></sub>	-0.017	0.036	1.000									

**Table 6.3: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,513 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisk (\*) denotes statistical significance at 1% level.

		<b>Panel B: Spearman Correlation Matrix</b>											
<b>Variables</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
1	BHAR <sub>t+1</sub>	1.000											
2	Concentrated Own	0.027	1.000										
3	Family Own	0.013	0.704*	1.000									
4	Government Own	0.024	-0.030	-0.175*	1.000								
5	Foreign Com. Own	0.018	-0.186*	-0.415*	0.033	1.000							
6	Domestic Com. Own	-0.005	-0.191*	-0.267*	0.034	0.019	1.000						
7	Bank Own	0.004	-0.146*	-0.166*	0.097*	-0.018	0.157*	1.000					
8	Non- Bank Fin. Own	-0.013	-0.204*	-0.161*	-0.026	-0.031	0.064*	0.058*	1.000				
9	Ratio of Share Difference	0.006	0.789*	0.587*	-0.002	-0.296*	-0.167*	-0.108*	-0.098*	1.000			
10	CV	-0.037	-0.181*	-0.272*	0.034	0.119*	-0.005	-0.063*	0.065*	-0.145*	1.000		
11	Board Size	0.039	-0.124*	-0.113*	0.175*	0.114*	0.089*	0.149*	-0.063*	-0.152*	-0.258*	1.000	
12	Board Independence	-0.064*	0.067*	-0.001	-0.004	0.003	-0.083*	-0.072*	-0.219*	0.046*	0.156*	-0.292*	1.000
13	Board Experience	0.036	0.080*	0.077*	0.184*	0.069*	0.033	0.169*	-0.085*	0.085*	-0.317*	0.227*	-0.093*
14	CEO Founder	0.003	-0.082*	0.069*	-0.092*	-0.120*	-0.043	-0.112*	0.034	-0.019	0.144*	-0.124*	0.084*
15	CEO Descendant	-0.013	0.188*	0.261*	-0.037	-0.048*	-0.090*	-0.012	-0.025	0.156*	-0.087*	0.078*	0.023
16	CEO-Chair	-0.007	0.007	0.129*	-0.016	-0.073*	-0.069*	-0.084*	0.033	0.057*	0.057*	-0.101*	0.084*
17	CEO-Group	-0.026	0.202*	0.252*	-0.080*	-0.038	-0.056*	-0.037	-0.076*	0.185*	-0.010	-0.029	0.048*
18	BIG 4	-0.029	-0.073*	-0.183*	0.032	0.284*	0.067*	0.062*	-0.038	-0.101*	0.083*	-0.005	0.074*
19	Audit Partner Tenure	0.071*	0.031	0.032	-0.023	-0.064*	-0.045*	-0.025	0.079*	0.041	-0.024	0.001	-0.167*
20	EBIT <sub>t</sub>	0.041	0.079*	0.020	0.049*	0.113*	-0.082*	-0.061*	-0.034	0.066*	0.022	-0.060*	-0.001
21	EBIT <sub>t-1</sub>	-0.002	0.073*	0.032	0.030	0.100*	-0.080*	-0.079*	0.000	0.071*	0.042	-0.090*	-0.033
22	Firm Size	-0.132*	-0.005	-0.108*	0.249*	0.280*	0.013	0.028	-0.168*	0.037	-0.025	0.170*	0.095*
23	Firm Age	0.027	0.071*	0.029	-0.033	0.083*	-0.019	-0.012	-0.165*	0.023	-0.036	0.112*	0.147*
24	Sales Growth	-0.072*	-0.048*	-0.062*	0.056*	0.031	-0.001	-0.022	0.004	0.015	0.019	-0.054*	-0.042
25	Leverage	-0.067*	-0.019	0.022	0.004	-0.053*	0.090*	0.080*	0.099*	0.031	-0.042	-0.017	-0.138*
26	Book-to-Market Ratio	0.160*	-0.018	0.018	-0.114*	-0.091*	-0.024	0.034	0.070*	-0.015	-0.030	0.028	-0.061*
27	BHAR <sub>t</sub>	-0.024	0.027	0.006	0.029	0.028	-0.018	0.030	-0.017	-0.004	-0.022	0.069*	0.023

(This table is continued on the next page)

**Table 6.3: Pearson Correlation Matrix and Spearman Correlation Matrix (Cont')**

The table shows correlation matrixes of all variables used in this study. The total sample includes 3,513 firm-year observations of non-financial listed companies in the SET during 1994 - 2007. Pearson Correlation Coefficient is shown in Table A and Spearman's Rank Correlation Coefficient is shown in Panel B. Asterisk (\*) denotes statistical significance at 1% level.

		<b>Panel B: Spearman Correlation Matrix (Cont')</b>											
<b>Variables</b>		<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
13	Board Experience	1.000											
14	CEO Founder	-0.170*	1.000										
15	CEO Descendant	0.050*	-0.214*	1.000									
16	CEO-Chair	-0.049*	0.474*	0.065*	1.000								
17	CEO-Group	-0.029	-0.103*	0.509*	-0.174*	1.000							
18	BIG 4	0.120*	-0.042	-0.041	-0.067*	-0.059*	1.000						
19	Audit Partner Tenure	-0.017	-0.049*	-0.037	-0.029	0.006	-0.081*	1.000					
20	EBIT <sub><i>t</i></sub>	0.018	-0.006	-0.021	-0.004	0.010	0.029	0.098*	1.000				
21	EBIT <sub><i>t-1</i></sub>	-0.007	0.008	-0.034	0.007	0.007	0.037	0.086*	0.656*	1.000			
22	Firm Size	0.302*	-0.122*	0.051*	-0.032	-0.004	0.216*	-0.095*	0.342*	0.315*	1.000		
23	Firm Age	0.079*	-0.082*	0.044*	-0.026	0.079*	0.030	-0.040	-0.011	-0.036	-0.086*	1.000	
24	Sales Growth	0.080*	-0.004	-0.017	-0.030	-0.014	0.071*	-0.039	0.310*	0.275*	0.334*	-0.211*	1.000
25	Leverage	0.090*	0.064*	0.015	0.031	0.027	0.014	-0.045*	-0.287*	-0.256*	-0.059*	-0.185*	0.097*
26	Book-to-Market Ratio	-0.109*	0.057*	0.002	0.015	-0.005	-0.105*	0.063*	-0.316*	-0.290*	-0.555*	0.118*	-0.259*
27	BHAR <sub><i>t</i></sub>	0.027	0.005	0.002	0.004	-0.009	-0.046*	0.056*	0.200*	0.016	-0.005	0.025	0.014
		<b>25</b>	<b>26</b>	<b>27</b>									
25	Leverage	1.000											
26	Book-to-Market Ratio	-0.177*	1.000										
27	BHAR <sub><i>t</i></sub>	-0.078*	0.032	1.000									

## 6.6.2 Univariate Analysis

### ***6.6.2.1 Abnormal Stock Returns in Firms with and without Dominant Shareholders***

Table 6.4, Panel A presents the mean comparison of buy-and-hold abnormal returns between firms with and without dominant shareholders. It shows that average one-year-ahead buy-and-hold abnormal returns between firms with and without dominant shareholders were 8.0% and 6.5%, respectively, in which are not significantly different.

In addition, Table 6.4, Panels B, focuses on firms with dominant shareholders and presents the mean comparison of buy-and-hold abnormal returns between firms with a particular type of dominant shareholder and firms with all other types of dominant shareholders. It also shows that on average firms with most types of dominant shareholder gained abnormal returns, with exception of those with domestic company or bank dominant shareholders, which had negative abnormal returns. However, there is no evidence that firm with any particular types of dominant shareholders gained significantly more or less abnormal returns than the others types did.

Table 6.4: Univariate Analysis – A Mean Comparison of Abnormal Return - Full Sample

**Panel A: A Mean Comparison of One-Year Ahead Unsigned Abnormal Return ( $BHAR_{t+1}$ ) between Firms with and without Dominant Shareholders - Full Sample**

Types of Shareholders	$BHAR_{t+1}$								
	Firm without Dominant Shareholders (1) < 25%		Firm with Dominant Shareholders (2) $\geq 25\%$		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank-sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
Dominant Shareholders	684	0.065	2,829	0.080	0.015	0.54	0.589	1.10	0.270

**Panel B: A Mean Comparison of One-Year Ahead Unsigned Abnormal Return ( $BHAR_{t+1}$ ) Among Different Types of Dominant Shareholders - Full Sample**

Types of Dominant Shareholders	$BHAR_{t+1}$								
	Firm with Other Types of Dominant Shareholders		Firm with this Type of Dominant Shareholders		Mean Diff. (2)-(1)	t-test		Wilcoxon Rank-sum Test	
	No.	Mean	No.	Mean		<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
Family	607	0.086	2,222	0.078	-0.008	-0.26	0.795	-1.31	0.191
Government	2,745	0.078	84	0.149	0.071	1.01	0.314	1.28	0.200
Foreign Company	2,409	0.077	420	0.093	0.016	0.46	0.643	1.31	0.190
Domestic Company	2,760	0.082	69	-0.031	-0.114	-1.46	0.144	-0.81	0.420
Bank	2,811	0.080	18	-0.003	-0.083	-0.55	0.582	-0.40	0.684
Non-Bank Financial Institution	2,813	0.079	16	0.164	0.085	0.53	0.594	0.13	0.889



### ***6.6.2.2 Before and After the Corporate Governance Reforms***

When the sample is divided into the periods before and after the corporate governance reforms, the pre-reform and post-reform sub-samples contain 1,211 and 2,067 firm-year observations<sup>16</sup>. Table 6.5 shows that, on average, the sampled firms were larger in terms of market capitalisation, book value of equity and sales but had lower current liabilities after the reforms. In addition, one-year-ahead abnormal returns significantly decreased after the reforms. This suggests that the capital market might be more efficient after the reform.

Regarding ownership, while the percentage of shares owned by the largest family shareholders (36.10% to 34.91%) or the largest non-bank financial institutional investors (3.24% to 1.85%) significantly reduced after the reforms, the largest foreign company shareholders significantly increased their share ownership (8.39% to 10.86%).

The ratio of the difference in holdings between the largest and the second largest shareholders significantly reduced after the reforms (0.65 to 0.63), implying that the second largest shareholders had more ability to control the largest shareholders. However, no significant changes of the ratio of cash flow to control rights were found after the reform.

Regarding board structure and auditor experience, the number of directors significantly increased after the reforms, mainly due to an increase in the number of independent directors in order to meet the requirement for audit committees after the reforms. Auditor tenure was significantly shorter after the reforms. This suggests that, on the whole, firms may have changed their auditors more frequently after the reforms.

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<sup>16</sup> When cash flows and accruals components of earnings were added as control variables instead of earnings, the sample size of pre-reform and post-reform were reduced to 664 and 2,063 firm-year observations, respectively.

Table 6.5: Mean Comparison of Variables before and after the Thai Corporate Governance Reforms

Firms' Characteristics (Million Baht)	Obs.		Mean		Diff. (2)-(1)	t-test		Wilcoxon Rank-Sum Test	
	Pre-CG	Post-CG	Pre-CG (1)	Post-CG (2)		t	p	z	p
Total Current Assets	1,211	2,067	2,411	3,596	1,185	3.09	0.002	2.81	0.005
Total Current Liabilities	1,211	2,067	2,676	2,832	156	0.46	0.649	-4.62	0.000
Total Assets	1,211	2,067	7,282	10,495	3,213	2.68	0.007	1.93	0.054
Total Liabilities	1,211	2,067	4,933	5,812	879	1.20	0.229	-3.44	0.001
BV of Shareholders' Equity	1,211	2,067	2,181	4,426	2,245	4.97	0.000	8.34	0.000
Market Capitalisation	1,211	2,067	4,483	9,173	4,690	3.57	0.000	8.34	0.000
Total Sales Revenues	1,211	2,067	3,453	9,617	6,164	3.96	0.000	9.02	0.000
Buy and Hold Abnormal Return									
BHAR <sub>t+1</sub>	1,211	2,067	0.158	0.017	-0.141	-6.07	0.000	-5.01	0.000
Ownership Variables									
Concentrated Own	1,211	2,067	41.52%	42.20%	0.68%	1.05	0.295	0.75	0.451
Family Own	1,211	2,067	36.10%	34.91%	-1.19%	-1.51	0.131	-1.80	0.072
Government Own	1,211	2,067	1.05%	1.48%	0.43%	1.78	0.076	2.27	0.023
Foreign Company Own	1,211	2,067	8.39%	10.86%	2.47%	4.66	0.000	2.55	0.000
Domestic Company Own	1,211	2,067	2.33%	2.10%	-0.23%	-0.90	0.370	-4.20	0.000
Bank Own	1,211	2,067	0.99%	1.02%	0.33%	0.41	0.679	-0.47	0.640
Non-Bank Financial Institutions Own	1,211	2,067	3.24%	1.85%	1.39%	-11.51	0.000	-17.09	0.000
Ratio of Share Difference	1,211	2,067	0.653	0.630	-0.023	-2.22	0.026	-2.64	0.008
CV	1,211	2,067	0.846	0.849	0.003	0.303	0.761	1.38	0.165
Board Composition and CEO Characteristics Variables									
Board Size	1,211	2,067	2.411	2.489	.078	7.35	0.000	7.14	0.000
Board Independence	1,211	2,067	0.219	0.555	0.336	61.89	0.000	44.22	0.000
Board Experience	1,211	2,067	0.408	0.383	-0.025	-2.82	0.005	-2.24	0.025

(This table is continued on the next page)

Table 6.5: Mean and Median Comparison of Variables before and after the Thai Corporate Governance Reforms (Cont')

	Obs.		Mean		Diff. (2)-(1)	t-test		Wilcoxon Rank-Sum Test	
	Pre-CG	Post-CG	Pre-CG (1)	Post-CG (2)		t	p	z	p
<b>Board Composition and CEO Characteristics Variables (Cont')</b>									
No. of All Directors	1,211	2,067	11.742	12.532	0.790	5.71	0.000	7.14	0.000
No. of Independent Directors	1,211	2,067	2.350	6.573	4.223	78.62	0.000	46.94	0.000
No. of Directors who are Appointed in	1,211	2,067	5.015	4.991	-0.024	-0.18	0.861	0.31	0.756
<b>Audit Reputation and Expertise</b>									
Audit Partner Tenure (Years)	1,211	2,067	7.274	5.779	-1.495	-10.98	0.000	-12.64	0.000
<b>Earnings and Earnings Components (Scaled by Lag Total Assets)</b>									
EBIT <sub><i>t+1</i></sub>	1,208	2,065	0.070	0.081	0.012	3.03	0.002	2.68	0.007
EBIT <sub><i>t</i></sub>	1,211	2,067	0.091	0.086	-0.006	-1.60	0.111	-1.98	0.048
CF <sub><i>t</i></sub>	664	2,063	0.173	0.118	-0.055	-7.20	0.000	-7.50	0.000
TAC <sub><i>t</i></sub>	664	2,063	-0.079	-0.033	0.046	6.83	0.000	6.56	0.000
EBIT <sub><i>t-1</i></sub>	1,211	2,067	0.108	0.086	-0.021	-5.89	0.000	-5.95	0.000
CF <sub><i>t-1</i></sub>	664	2,063	0.167	0.112	-0.054	-6.59	0.000	-7.67	0.000
TAC <sub><i>t-1</i></sub>	664	2,063	-0.063	-0.026	0.037	4.98	0.000	6.14	0.000
<b>Other Control Variables</b>									
Number of Years since Established	1,211	2,067	21.080	26.100	5.020	9.16	0.000	14.77	0.000
Firm Age	1,211	2,067	2.861	3.141	0.280	15.16	0.000	14.76	0.000
Firm Size	1,211	2,067	13.730	14.209	0.478	8.13	0.000	8.34	0.000
Sales Growth	1,211	2,067	0.220	0.165	-0.055	-4.04	0.000	-5.42	0.000
Leverage	1,211	2,067	0.565	0.451	-0.115	-13.50	0.000	-13.14	0.000
Book-to-Market Value Ratio	1,211	2,067	1.442	1.189	-0.253	-4.93	0.000	-0.53	0.593
BHAR <sub><i>t</i></sub>	1,211	2,067	-0.014	0.019	0.033	1.50	0.135	2.43	0.015

**Note:** All variables are winsorised at 1 and 99 percentiles

### 6.6.3 Multivariate Analysis

#### ***6.6.3.1 Do Investors Correctly Perceive the Impact of Ownership Concentration and the Presence of Dominant Shareholders on Firm Performance?***

This section investigates whether investors correctly perceive the impact of ownership concentration ( $H_{a1}$ ) and the impact of the presence of dominant shareholders on firm performance ( $H_{a2}$ ). Models 6.1 and 6.2 were estimated separately using the OLS.

As discussed in previous sections, under the EMH, the market's subjective expectation of any variable should be equal to the objective expectation for that variable, conditional on all past information (Mishkin, 1983). Therefore, if the market is efficient, there should be no systematic abnormal returns.

In other words, if the coefficients of ownership and other corporate governance variables are statistically different from zero, this suggests that the market is not fully efficient and that investors misperceive the impact of these variables on firm performance. In particular, a significant positive sign of a coefficient indicates that investors underestimate (overestimate) the positive (negative) impact of these variables on firm performance at the current year ( $t$ ), the misperception would lead to the significant positive return at the following year ( $t+1$ ). On the other hand, a significant negative sign of a coefficient indicates that investors overestimate (underestimate) of the positive (negative) impact of these variables on firm performance. This leads would lead to the significant negative return at the following year.

Table 6.6 reports the two sets of regression results for each hypothesis ( $H_{a1}$  and  $H_{a2}$ ).

Regarding Model 6.1, the results show that the coefficient of Concentrated Own in earnings sample is positively but not significantly related to the one-year-ahead buy-and-hold abnormal returns when either earnings, Regression (A), or earnings components, Regression (B), were included in the regressions as control variables.

Regarding Model 6.2, the results consistently show that the coefficient of D\_Dominant is positively related to the one-year-ahead buy-and-hold abnormal returns at the 10% level of significance when either earnings or earnings components were included as the control variables.

The insignificant sign of the coefficients in Model 6.1 suggests that investors correctly perceived the impact of ownership concentration on firm performance. In contrast, the significantly positive signs of the coefficients in Model 6.2 support the hypothesis  $H_{a2}$  and suggest that investors misperceived the influence of the presence of dominant shareholders on firm performance. The results suggest that investors underestimate the impact of the presence of dominant shareholders on firm performance (i.e.  $\gamma_i^* < \gamma_i$ ).

Evidence from Chapter 4 suggests that firms with dominant shareholders performed better than firms without dominant shareholders did, but only in terms of market performance. In this chapter, evidence of the underestimation of the impact of the presence of dominant shareholders on firm performance therefore indicates negative investor perceptions of firms with dominant shareholders. The claim by the World Bank that the dominant shareholders partly led Thailand to the financial crisis may have influenced investors' beliefs about the presence of dominant shareholders. For example, they may have expected them to exploit corporate assets for private benefit. Their overly negative perception led them to underestimate the positive impact less as than is actually the case.

The results from Models 6.1 and 6.2, Table 6.6 report significant negative signs of the coefficients of the ratio of the share difference between the largest and second largest shareholders. The evidence suggests that investors misperceived the role of the second largest shareholders as a corporate governance mechanism to control the largest shareholders. This might be because it is too complicated for many investors to extract ownership information and to calculate the ratio of share difference, so they may not have been aware of the benefit from this governance structure.

It is worth noting that these results must be interpreted with care because they are based on an assumption that the estimated regressions are correctly specified and any omitted variables are correctly estimated.

**Table 6.6: Investors' Perception on the Impact of Ownership Concentration, the Presence of Dominant Shareholders and Other Corporate Governance Mechanisms on Firm Performance**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration, the presence of dominant shareholder and other corporate governance mechanisms on firm performance. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ), Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 6.1 – Ownership Concentration				Model 6.2 - Dominant Shareholders (Dummy)			
	$BHAR_{t+1}$		$BHAR_{t+1}$		$BHAR_{t+1}$		$BHAR_{t+1}$	
	Regression (A)		Regression (B)		Regression (A)		Regression (B)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Concentrated Own	0.114	(1.44)	0.087	(1.00)				
D_Dominant Share Difference	-0.094*	(-1.79)	-0.082	(-1.42)	0.050* (1.68)		0.056* (1.74)	
CV	0.030	(0.68)	0.025	(0.53)	-0.077* (-1.75)		-0.080* (-1.68)	
Board Size	0.010	(0.20)	-0.006	(-0.10)	0.029 (0.66)		0.025 (0.53)	
Board Independence	-0.002	(-0.02)	-0.040	(-0.40)	0.004 (0.09)		-0.012 (-0.22)	
Board Experience	-0.002	(-0.02)	-0.040	(-0.40)	-0.004 (-0.04)		-0.040 (-0.42)	
CEO-Founder	0.139***	(2.80)	0.189***	(3.45)	0.141*** (2.83)		0.191*** (3.48)	
CEO-Descendant	-0.003	(-0.12)	0.003	(0.10)	-0.006 (-0.22)		0.002 (0.05)	
CEO-Chair	0.032	(0.81)	0.027	(0.65)	0.029 (0.75)		0.025 (0.59)	
CEO-Group	-0.033	(-1.02)	-0.022	(-0.60)	-0.032 (-0.98)		-0.021 (-0.59)	
BIG 4	-0.024	(-0.65)	-0.044	(-1.11)	-0.022 (-0.59)		-0.042 (-1.08)	
Audit Partner	-0.006	(-0.30)	-0.004	(-0.15)	-0.006 (-0.27)		-0.003 (-0.13)	
EBIT <sub>t</sub>	0.029	(1.35)	0.022	(0.97)	0.028 (1.32)		0.022 (0.93)	
CF <sub>t</sub>	0.461***	(3.05)			0.457*** (3.02)			
TAC <sub>t</sub>			0.350** (2.14)				0.346** (2.12)	
EBIT <sub>t-1</sub>			0.277 (1.54)				0.277 (1.53)	
CF <sub>t-1</sub>	-0.130	(-0.98)			-0.139 (-1.04)			
TAC <sub>t-1</sub>			-0.104 (-0.74)				-0.119 (-0.84)	
BHAR <sub>t</sub>			-0.032 (-0.21)				-0.043 (-0.28)	
Firm Size	-0.089***	(-4.77)	-0.096***	(-4.57)	-0.089*** (-4.76)		-0.096*** (-4.57)	
Firm Age	-0.042***	(-4.96)	-0.043***	(-4.59)	-0.043*** (-5.04)		-0.044*** (-4.67)	
Sales Growth	-0.010	(-0.50)	-0.019	(-0.79)	-0.010 (-0.47)		-0.019 (-0.77)	
Leverage	-0.016	(-0.62)	-0.013	(-0.43)	-0.015 (-0.57)		-0.010 (-0.33)	
Book-to-Market	0.100*	(1.81)	0.091	(1.49)	0.096* (1.76)		0.087 (1.44)	
Constant	0.049***	(5.07)	0.051***	(4.48)	0.049*** (5.04)		0.051*** (4.50)	
	0.314*	(1.85)	0.446**	(2.27)	0.335** (2.00)		0.464** (2.39)	
No. of Obs.	3,513		2,882		3,513		2,882	
Adj. R-squared	0.172		0.150		0.173		0.150	
F-test	18.723		12.522		18.812		12.679	
p_value	0.000		0.000		0.000		0.000	

### ***6.6.3.2 Do Investors Correctly Perceive the Impact of Ownership Concentration by Shareholder Types and the Presence of Dominant Shareholders by their Types on Firm Performance?***

This section examines whether investors correctly perceive the impact of ownership concentration by different shareholder types on firm performance and whether they correctly perceive the impact of the presence of dominant shareholders by their types on firm performance ( $H_{a3} - H_{a12}$ ). Models 6.3 and 6.4 were estimated separately using the OLS. Table 6.7 reports the two sets of regression results for each hypothesis ( $H_{a3} - H_{a12}$ ).

Regarding Models 6.3 and 6.4, the results show that the coefficients of Government Own and D\_Government are positively related to one-year-ahead buy-and-hold abnormal returns at the 1% level of significance.

The significantly positive sign of the coefficients support the hypotheses  $H_{a5}$  and  $H_{a6}$  and suggest that investors failed to correctly perceive the impact of government block ownership as well as the presence of dominant government shareholders on firm performance. In particular, they tended to overly underestimate these impacts (i.e.  $\gamma_i^* < \gamma_i$ ).

Based on the findings of Chapter 4, there is no evidence that these structures were harmful to firm performance. Nevertheless, the findings from this chapter may imply that investors are likely to have a negative perception of the influence of government block ownership and the presence of government as the dominant shareholders on firm performance. As suggested by the existing literature, investors may view ownership retention by the government as a sign of private benefit of control and expropriation (for example, see Chen and Strang, 2004). In fact, political intervention and the instability of the political environment are acute in Thailand. A survey by Freeman (2000) suggests that “political interference” is one of the major weaknesses of the Thai business environment from the point of view of investors. Hence the overly negative perception



of the government could lead investors to underestimate performance of government owned/controlled firms less than it actually performed.

The results of Models 6.3<sup>17</sup> and 6.4 from Table 6.7 also show that the coefficients of Foreign Own and D\_Foreign are significantly positive at the 5% level of significance.

The evidence supports the hypotheses  $H_{a7}$  and  $H_{a8}$  and reveals that investors also failed to correctly perceive the influence of foreign company block ownership as well as the presence of dominant foreign company shareholders on firm performance. Therefore, they tended to underestimate these impacts (i.e.  $\gamma_i^* < \gamma_i$ ) due to a negative perception.

Although there is no evidence from Chapter 4 that these structures were harmful to firm performance, the evidence from this chapter suggests that investors tended to have a negative perception of foreign block ownership and foreign companies as dominant shareholders. Investors might question the efficiency of monitoring provided by these shareholders due to long distances or cultural differences, for instance. This may lead investors to underestimate their positive impact of foreign companies block ownership on firm performance.

Overall, the evidence suggests that it would be helpful for research to classify ownership concentration by shareholder types. While different shareholders have different incentives to hold shares and participate in the monitoring of firms, investors also have different perceptions of the different types of major owners.

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<sup>17</sup> The coefficient of Foreign Own is significant only when earnings were included as control variables. However, the significance disappeared when earnings components were included as control variables instead of earnings.

**Table 6.7: Investors' Perception on the Impact of Ownership Concentration by Shareholder Types, the Presence of Dominant Shareholders by Shareholder Types and Other Corporate Governance Mechanisms on Firm Performance**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by shareholder types, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 6.3 –Ownership Concentration by Shareholders' Types				Model 6.4 – Dominant Shareholders by Shareholders' Types (Dummies)			
	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Regression (B)		Regression (A)		Regression (B)	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Family	0.014	(0.20)	0.018	(0.23)	0.022	(0.67)	0.031	(0.89)
Government	0.543***	(2.59)	0.607***	(2.59)	0.245***	(2.84)	0.278***	(2.94)
Foreign Com.	0.201**	(2.35)	0.117	(1.30)	0.100***	(2.64)	0.083**	(2.05)
Domestic Com.	-0.098	(-0.76)	-0.061	(-0.44)	-0.054	(-0.94)	-0.010	(-0.16)
Bank	0.055	(0.12)	-0.193	(-0.39)	-0.043	(-0.38)	-0.048	(-0.43)
Non-Bank Fin.	-0.297	(-0.84)	-0.448	(-1.12)	0.152	(0.74)	0.159	(0.68)
Share Difference	-0.039	(-0.90)	-0.046	(-1.00)	-0.053	(-1.18)	-0.059	(-1.23)
CV	-0.001	(-0.02)	-0.001	(-0.01)	-0.012	(-0.27)	-0.010	(-0.19)
Board Size	-0.011	(-0.23)	-0.034	(-0.61)	-0.010	(-0.21)	-0.032	(-0.59)
Board								
Independence	-0.018	(-0.19)	-0.060	(-0.62)	-0.024	(-0.26)	-0.066	(-0.68)
Board	0.134***	(2.64)	0.184***	(3.24)	0.135***	(2.70)	0.183***	(3.33)
CEO-Founder	0.010	(0.34)	0.010	(0.32)	0.007	(0.25)	0.012	(0.40)
CEO Descendant	0.041	(1.05)	0.035	(0.83)	0.037	(0.93)	0.032	(0.77)
CEO-Chair	-0.031	(-0.95)	-0.021	(-0.58)	-0.025	(-0.77)	-0.015	(-0.42)
CEO-Group	-0.015	(-0.41)	-0.036	(-0.91)	-0.008	(-0.22)	-0.029	(-0.73)
BIG 4	-0.014	(-0.62)	-0.005	(-0.20)	-0.009	(-0.42)	-0.004	(-0.15)
Audit Partner	0.027	(1.28)	0.020	(0.87)	0.027	(1.27)	0.021	(0.88)
$EBIT_t$	0.455***	(3.02)			0.448***	(2.98)		
$CF_t$			0.341**	(2.10)			0.333**	(2.04)
$TAC_t$			0.272	(1.51)			0.259	(1.44)
$EBIT_{t-1}$	-0.134	(-1.02)			-0.146	(-1.10)		
$CF_{t-1}$			-0.106	(-0.75)			-0.119	(-0.84)
$TAC_{t-1}$			-0.034	(-0.22)			-0.050	(-0.33)
$BHAR_t$	-0.091***	(-4.91)	-0.098***	(-4.70)	-0.091***	(-4.90)	-0.097***	(-4.69)

(This table is continued on the next page)

**Table 6.7: Investors' Perception on the Impact of Ownership Concentration by Shareholder Types, the Presence of Dominant Shareholders by Shareholder Types and Other Corporate Governance Mechanisms on Firm Performance (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by shareholder types, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

Explanatory Variables	Model 6.3 –Ownership Concentration by Shareholders' Types				Model 6.4 – Dominant Shareholders by Shareholders' Types (Dummies)			
	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Regression (B)		Regression (A)		Regression (B)	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Firm Size	-0.049***	(-5.63)	-0.049***	(-5.18)	-0.048***	(-5.49)	-0.048***	(-5.06)
Firm Age	-0.012	(-0.55)	-0.017	(-0.66)	-0.011	(-0.51)	-0.016	(-0.65)
Sales Growth	-0.016	(-0.63)	-0.012	(-0.42)	-0.015	(-0.58)	-0.011	(-0.38)
Leverage	0.097*	(1.77)	0.087	(1.43)	0.088	(1.61)	0.074	(1.23)
Book-to-Market	0.048***	(4.93)	0.050***	(4.35)	0.047***	(4.82)	0.049***	(4.26)
Constant	0.489***	(2.76)	0.626***	(3.09)	0.481***	(2.79)	0.602***	(3.02)
No. of Obs.	3,513		2,882		3,513		2,882	
Adj. R-squared	0.175		0.152		0.175		0.152	
F-test	16.972		11.504		16.805		11.407	
p_value	0.000		0.000		0.000		0.000	

### 6.6.3.3 Do Investors Correctly Perceive the Impact of Other Corporate Governance Mechanisms on Firm Performance?

This section examines whether investors correctly perceive the impact of board structure ( $H_{a13}$  to  $H_{a15}$ ), CEO characteristics ( $H_{a16}$  to  $H_{a19}$ ), and auditor reputation and expertise ( $H_{a20}$  to  $H_{a21}$ ) on firm performance.

Tables 6.6 and 6.7 show that the signs of the coefficients of Board experience are significant and positive for all models. The findings support the hypothesis  $H_{a15}$  and imply that investors could not correctly perceive the influence of board experience on firm performance and tended to underestimate (overestimate) the positive (negative) impact of board experience on firm performance (i.e.  $\gamma_i^* < \gamma_i$ ).

Based on the findings from Chapter 4, there was no significant impact of board experience on firm performance. Therefore, the misperception of the impact found in this chapter may have been caused by a negative perception of board experience, measured by the number of directorships held in multiple companies. Investors may believe that these directors are too busy to give their time and resources to the efficient supervision of managers rather than that firms benefit from their experience. Ferris et al. (2003) empirically investigated whether directors of multiple companies were less efficient due to the demands of institutional investors and shareholding activists. They found no evidence that these directors neglected their board responsibilities or put their firms at greater risk from security fraud.

Nevertheless, the evidence is inconsistent with other literature on, for example, short-term announcement effects, which shows investors as having a more positive reaction to firms when they hire new directors with experience. It is possible that the proxy for board experience used in this study is more general in its definition of “expert” and fails to capture specific expertise (such as accounting expertise). Hence it will be interesting for future research to identify more specific forms of board experience.

#### ***6.6.3.4 Other Control Variables***

This section further examines whether other control variables have any effects on investor predictions of future earnings and returns. The OLS regression results are consistent for all models (Model 6.1 to 6.4).

Regarding earnings and earnings components, the results from Tables 6.6 and 6.7 show that the signs of the coefficient of  $EBIT_t$  are significant and positive, suggesting that investors underestimated the ability of current earnings when predicting future earnings. Particularly, they tended to underestimate the ability of the cash flow component of earnings to predict future earnings. This finding is consistent with those of Pincus et al. (2007) and partly consistent with those of Sloan, who found that investors tended to underestimate the ability of cash flows. However, this study has not found evidence of the overestimating of the ability of the accruals component of earnings.

The evidence also supports Kraft et al. (2007), who argue that the accruals anomaly<sup>18</sup> disappears when other variables that are related to future earnings and returns are taken into account (the MT). However, it is not fully consistent with subsequent research in accrual anomalies such as that of Konstantinidi et al. (2012) and Kraft et al. (2007), which report that investors correctly perceived the ability of both current cash flows and accruals to predict future earnings.

Regarding other control variables, the evidence from Models 6.3 and 6.4, in Table 6.7, shows that, while firm size is significantly and negatively related to one-year-ahead abnormal returns, book-to-market ratio is significantly and positively related to them.

The evidence is consistent with previous studies such as those of Banz (1981) and Fama and French (1992), who found that smaller firms seemed to have higher abnormal returns. It is also consistent with some previous studies that found a positive relationship between the ratio of book-to-market value of equity and abnormal returns (for example, see Fama and French, 1992), implying that investors may require higher returns from smaller firms and firms with high BE/ME ratios in order to compensate for high risks.

Nevertheless, the evidence from this study, in Section 6.7.2, reveals that the perception of investors may be a factor that drives these relationships; investors seem to over expect the performance of larger firms and therefore overestimate the stock returns of large firms. On the other hand, investors seem to under expect the performance of firms with a high BE/ME ratio, which suggests lower growth, and therefore underestimate the stock returns of firms with high BE/ME ratio.

Regarding leverage, the evidence shows that it is significantly and positively related to one-year-ahead abnormal returns, which is consistent with previous studies such as that of Bhandari (1988) and suggests that investors view firms with high leverage as having higher risk and tend to underestimate the value of high leverage firms.

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<sup>18</sup> An “accruals anomaly” refers to a situation in which investors tend to overestimate the ability of the accruals component of earnings and underestimate the ability of the cash flow component of earnings to predict future earnings (Sloan, 1996).

Finally, the evidence shows that previous buy-and-hold abnormal returns are significantly and negatively related to one-year-ahead abnormal returns, suggesting that investors use past information on abnormal returns to predict future performance and returns. They may therefore have an overly positive perception of stock that has performed well and, in turn, they overestimate the value of stock (Jegadeesh and Titman, 1993; Lakonishok et al., 1994).

#### **6.6.4 The Corporate Governance Reforms**

This section examines whether investors can correctly perceive the impact of ownership structure and other corporate governance mechanisms on firm performance in pre-reform and post-reform periods. The samples were divided into pre-reform (1994 to 1998) and post-reform (2000 – 2007) sub-samples. The regression results estimated from Model 6.1 and Model 6.2 are reported in Table 6.8 to 6.9.

Additionally, it further investigates whether investors were more able to perceive the impact of ownership structure and other corporate governance mechanisms on firm performance after the reforms ( $H_{a22}$  to  $H_{a41}$ ). The tests for equality of coefficients in pre-reform and post-reform periods are also performed using the dummy variables approach discussed in Section 6.4.3.1. Only the incremental effects and the Wald test (F-statistic) from Model 6.5 to 6.8 are reported.

##### ***6.6.4.1 Are Investors More Able to Perceive the Impact of Ownership Concentration and the Presence of Dominant Shareholders on Firm Performance?***

Panels A and B in Table 6.8 report the OLS regression results estimated from Models 6.1 and 6.2 before and after the reforms.

Regarding Model 6.1, the results from Panel A show that the sign of the coefficient of Concentrated Own in Regression (A) is significantly positive only before the reforms, suggesting that investors tended to misperceive the impact of ownership concentration

on firm performance, but only before the reforms. Hence they tended to significantly underestimate the impact before the reforms.

The equality test ( $H_{a22}$ ) reveals that the incremental effects in the post-reform period are negative but not significant. The Wald test suggests that investors tended to underestimate the impacts in both periods but no significant misperception incurred in the post-reform period. The evidence suggests that generally investors could better perceive the impact of ownership concentration on firm performance after the reforms. Therefore, they more correctly estimate the impact after the reforms.

Regarding Model 6.2, the result from Panel B shows that the sign of the coefficient of *D\_Dominant* in Regression (B) is significant and positive, but only before the reform, suggesting that investors only misperceived the impact of the presence of dominant shareholders on firm performance before the reforms. No evidence of the significant mispricing of this impact is found after the reforms.

The equality test ( $H_{a23}$ ) reveals that the incremental effects in the post-reform period are negative but not significant. The Wald test suggests that investors tended to underestimate the impacts in both periods but no significant misperception incurred in the post-reform period. Consistent to Hypothesis  $H_{a23}$ , the evidence suggests that generally investors could better perceive the impact of the presence of a dominant shareholder on firm performance after the reforms. Therefore, they more correctly estimate the impact after the reforms.

Overall, the evidence suggests that the reforms are likely to have helped to improve the ability of investors to predict future earnings and returns and that, alongside the accounting standard reforms, they encouraged firms to provide better transparency and disclosure on their structures, which in turn may have reduced the degree of investor misperceptions of the impact of ownership concentration on firm performance. In addition, improvements in corporate governance may have increased investors' confidence in general, regardless of ownership structures; they tended not to have extreme views on the impact of these structures after the reforms.

**Table 6.8: Investors' Perception on the Impact of Ownership Concentration, the Presence of Dominant Shareholder and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration, the presence of dominant shareholder and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel A: Model 6.1 – Ownership Concentration**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.5)		Regression (B)		Equality Test (Model 6.5)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
Concentrated Own Share	0.324*	0.109	-0.215	1.21	0.268	0.113	-0.155	0.39
Difference CV	-0.102	-0.105	-0.003	0.00	-0.085	-0.107	-0.022	0.02
Board Size	0.064	0.062	-0.002	0.00	0.090	0.058	-0.032	0.07
Board Independence	0.188***	0.108	-0.080	0.62	0.200**	0.104	-0.096	0.79
Board Experience	0.639***	0.063	-0.576**	5.31**	0.880***	0.061	-0.819***	6.80***
CEO-Founder	0.020	0.275***	0.255**	4.91**	0.132	0.274***	0.142	1.11
CEO	-0.032	0.003	0.035	0.30	-0.046	0.005	0.051	0.42
Descendant	0.041	0.001	-0.040	0.16	0.144	0.001	-0.143	1.17
CEO-Chair	0.057	-0.041	-0.098	1.56	0.134	-0.040	-0.174*	2.81*
CEO-Group	0.041	-0.050	-0.091	0.95	-0.023	-0.049	-0.026	0.06
BIG 4	0.024	-0.002	-0.026	0.27	0.068	-0.001	-0.069	1.40
Audit Partner								
Tenure	0.081**	0.006	-0.075	2.26	0.107**	0.007	-0.100*	2.76*
$EBIT_t$	1.228***	0.247	-0.981***	7.63***				
$CF_t$					1.210***	0.230	-0.980***	6.13***
$TAC_t$					1.237***	0.185	-1.052***	6.15***
$EBIT_{t-1}$	-1.066***	-0.026	1.040***	10.19***				
$CF_{t-1}$					-0.887**	-0.076	0.811**	4.15**
$TAC_{t-1}$					-0.992***	0.037	1.029***	7.17***
$BHAR_t$	-0.270***	-0.043*	0.227***	30.13***	-0.339***	-0.042*	0.297***	38.14***
p_value	0.000	0.000			0.000	0.000		

(This table is continued on the next page)



**Table 6.8: Investors' Perception on the Impact of Ownership Concentration, the Presence of Dominant Shareholder and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration, the presence of dominant shareholder and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times variable$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel A: Model 6.1 – Ownership Concentration**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.5)		Regression (B)		Equality Test (Model 6.5)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
Firm Size	-0.042***	-0.047***	-0.005	0.06	-0.043**	-0.045***	-0.002	0.01
Firm Age	-0.003	-0.036	-0.033	0.49	-0.038	-0.037	0.001	0.00
Sales Growth	-0.119***	-0.061	0.058	0.99	-0.169***	-0.061	0.108	2.17
Leverage	-0.211**	0.214***	0.425***	10.77***	-0.306**	0.208***	0.514***	10.53
Book-to-Market	0.035***	0.108***	0.073***	8.02***	0.031**	0.107***	0.076***	8.15
Constant	0.040	0.134			0.031	0.134		
No. of Obs.	1,211	2,067			664	2,063		
Adj. R-squared	0.106	0.055			0.144	0.054		
F-test	6.838	4.597			5.591	4.252		
p_value	0.000	0.000			0.000	0.000		

**Table 6.8: Investors' Perception on the Impact of Ownership Concentration, the Presence of Dominant Shareholder and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration, the presence of dominant shareholder and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times \text{variable}$ ) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel B: Model 6.2 – The Presence of Dominant Shareholder**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.6)		Regression (B)		Equality Test (Model 6.6)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
D_Dominant Share Difference	0.079	0.053	-0.026	0.11	0.161*	0.055	-0.106	1.36
CV	-0.017	-0.089	-0.072	0.46	-0.092	-0.091	0.001	0.00
Board Size	0.065	0.059	-0.006	0.00	0.094	0.055	-0.039	0.11
Board	0.171**	0.102	-0.069	0.47	0.176**	0.098	-0.078	0.52
Board Experience	0.600***	0.066	-0.534**	4.49**	0.840***	0.064	-0.776**	5.96**
CEO-Founder	0.037	0.272***	0.235**	4.19**	0.163	0.271***	0.108	0.63
CEO-Descendant	-0.039	0.001	0.040	0.39	-0.058	0.003	0.061	0.61
CEO-Chair	0.029	0.000	-0.029	0.08	0.126	0.000	-0.126	0.89
CEO-Group	0.061	-0.041	-0.102	1.69	0.146	-0.040	-0.186*	3.18*
BIG 4	0.058	-0.050	-0.108	1.34	-0.014	-0.049	-0.035	0.10
Audit Partner	0.026	-0.002	-0.028	0.31	0.072	0.000	-0.072	1.54
Tenure	0.079*	0.005	-0.074	2.18	0.093*	0.006	-0.087	2.11
$EBIT_t$	1.222***	0.245	-0.977***	7.55***				
$CF_t$					1.209***	0.226	-0.983***	6.25***
$TAC_t$					1.215***	0.185	-1.030**	5.96**
$EBIT_{t-1}$	-1.079***	-0.039	1.040***	10.08***				
$CF_{t-1}$					-0.937**	-0.087	0.850**	4.48**
$TAC_{t-1}$					-1.040***	0.029	1.069***	7.63***
$BHAR_t$	-0.268***	-0.043*	0.225***	29.61***	-0.339***	-0.042*	0.297***	38.82***
Firm Size	-0.042***	-0.048***	-0.006	0.07	-0.045***	-0.046***	-0.001	0.00
Firm Age	-0.002	-0.035	-0.033	0.48	-0.036	-0.035	0.001	0.00
Sales Growth	-0.122***	-0.059	0.063	1.15	-0.163***	-0.060	0.103	2.06
Leverage	-0.211**	0.210***	0.421***	10.63***	-0.321**	0.205***	0.526***	11.12***
Book-to-Market	0.035***	0.108***	0.073***	7.98***	0.033**	0.107***	0.074***	7.87***
Constant	0.104	0.153			0.114	0.153		
No. of Obs.	1,211	2,067			664	2,063		
Adj. R-squared	0.104	0.055			0.148	0.055		
F-test	6.643	4.677			5.694	4.312		
p_value	0.000	0.000			0.000	0.000		

#### ***6.6.4.2 Do Investors Better Perceive the Impact of Ownership Concentration by Shareholder Type and the Presence of Dominant Shareholder by their Types on Firm Performance?***

Panels A and B in Table 6.9 report the OLS regression results estimated from Models 6.3 and 6.4 before and after the reforms.

The results from Panel A show that the signs of the coefficients of Government Own and D\_Government in Regressions (A) and (B) are significantly positive in Models 6.3 and 6.4, but only after the reforms. No significant sign is found before the reforms for all models. The evidence suggests that investors tend to better perceived the impact of government block ownership and the presence of dominant government shareholders on performance before the reforms.

Nevertheless, the equality test ( $H_{a25}$  and  $H_{a30}$ ) reveals that the incremental effects in the post-reform period are positive but not significant. The Wald test suggests that investors tended to underestimate the impacts in both periods but no significant misperception incurred in the post-reform period. Although the equality test<sup>19</sup> did not provide strong evidence of the significant negative perception of government incurred in the post-reform period, the significant positive sign of the coefficients of Government Own and D\_Government in post-reform period imply that investors tended to misperceive these impacts after the reforms, leading to the underestimating of the impacts after the reforms.

According to Bunkanwanicha and Wiwattanakantang (2006), Thailand has had an unstable democracy and Thai politics have been governed by military and bureaucratic elites since 1932. During 1990s, the country was governed by four elected governments; each government was formed by coalitions between political parties and normally ended because of the departure of key coalition partners. A major change in Thai politics began

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<sup>19</sup> By performing the Mishkin test in Section 6.7.2, the results also confirm that investors have more significant negative perception on government block ownership/the presence of a dominant government shareholder after the reforms.

with the enactment of the new constitution in 1997. The political reform included such measures as the adoption of a party list system and the requirement for prime ministers to be elected. Each government has served a four-year term.

The first election under the new constitution was on 6 January 2001 and the leader of the winning party became the prime minister. This was the first civilian government that ran for a full, four-year term, and it was re-elected in 2005. The prime minister at that time owned big businesses in Thailand. Although Thai politics seemed to be stable (in terms of the frequency of changes in government), investors may have felt less confident about firms that were majority owned by government during that period. For example, they may have feared that the government would take some private benefits and transfer them to the prime minister's businesses.

As mentioned above, it is possible that the unstable politics and political intervention as well as a lack of confidence in government transparency, especially during the reforms, created negative investor perceptions of government-owned firms. Additionally, the evidence from this study suggests that the corporate governance reforms did not significantly help to mitigate investors' negative perceptions of the impact of government block ownership on firm performance.

Regarding foreign company ownership, Panels A and B report significantly positive signs of Foreign Own in Regressions (A) and (B) only before the reforms in Models 6.3 and 6.4. However, these significant positive signs disappear in all models after the reforms.

The equality test ( $H_{a26}$ ) reveals that the incremental effects of foreign company block ownership in the post-reform period are significantly negative. The Wald test also suggests that the degrees of the misperception in pre-reform and post-reform periods are significantly different. Hence investors tended to have more positive perception of foreign block ownership after the reforms and this perception significantly reduce their negative perception of this structure before the reforms. Nevertheless, the equality test

( $H_{a30}$ ) does not provide strong evidence of significant misperception of the presence of a dominant foreign company shareholder in the post-reform period.

Overall, the evidence suggests that investors misperceived the impact of concentrated ownership by foreign investors and the presence of dominant foreign shareholders on firm performance, but only before the reforms. Therefore, they tended to underestimate the impacts of these structures on firm performance before the reforms.

Before the reforms, many foreign companies were faced with restrictions (such as limited ownership, limited types of businesses) under the Foreign Business Law (1972). These may have affected the investor perceptions and confidence in firms with foreign company block ownership. Since the crisis, the law became less restricted and many campaigns were launched by the government (such as corporate tax exemptions) in order to promote the Thai economy. These may have reduced the overly negative investor perceptions of foreign block ownership after the reforms and improved investors' ability to predict the impact of this structure on firm performance.

Regarding non-bank financial institutional investor ownership, the results from Models 6.3 report significantly negative signs for Non-Bank Financial institution Own, but only before the reforms. However, no significant sign is found in Model 6.4.

The equality test ( $H_{a28}$ ) reveals that the incremental effects in the post-reform period are positive but not significant. The Wald test suggests that investors tended to overestimate the impacts in both periods but no significant misperception incurred in the post-reform period. Hence it could imply that investors seem to have more negative perception of non-bank financial institution ownership in post-reform period in turn reducing the extremely positive perception in the pre-reform period.

The evidence suggests that, before the reforms, investors misperceived the impact of non-bank financial institutional investors block ownership. Therefore, they tended to overestimate the impact of this structure on firm performance before the reforms. Since the Thai economy was booming before the financial crisis, investors may have had a

positive view of this type of shareholder's ability to provide good monitoring in order to enhance firm performance (for examples, see Brickley et al., 1988; Chen et al., 2005; Cornett et al., 2007) and therefore they overestimated the impact of this structure.

However, many financial institutions were closed after the crisis and this indicated some weaknesses in the financial system. Coupled with the reforms, this may have led to more accurate investor perceptions of the impact of non-bank financial institutional investors block ownership on firm performance.

**Table 6.9: Investors' Perception on the Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholder by their Types and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by types of shareholder, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel A: Model 6.3 – Ownership Concentration by Shareholders' Types**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.7)		Regression (B)		Equality Test (Model 6.7)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
Family Own	0.050	0.069	0.019	0.01	0.107	0.075	-0.032	0.02
Government Own	0.534	0.560**	0.026	0.00	0.656	0.559**	-0.097	0.04
Foreign Com. Own	0.655***	0.083	-0.572***	6.45***	0.552**	0.083	-0.469*	3.56*
Domestic Com. Own	-0.165	0.036	0.201	0.43	-0.373	0.048	0.421	1.25
Bank Own	0.720	-0.472	-1.192	1.20	1.758	-0.475	-2.233	2.53
Non-Bank Fin. Own	-1.213**	-0.235	0.978	1.47	-1.247*	-0.238	1.009	1.22
Share Difference	0.044	-0.076	-0.120	1.20	0.009	-0.079	-0.088	0.47
CV	0.045	0.047	0.002	0.00	0.064	0.045	-0.019	0.02
Board Size	0.166**	0.080	-0.086	0.71	0.145*	0.076	-0.069	0.39
Board Independence	0.576***	0.041	-0.535**	4.61**	0.854***	0.040	-0.814***	6.69***
Board Experience	0.026	0.267***	0.241**	4.33**	0.119	0.266***	0.147	1.12
CEO-Founder	0.009	0.008	-0.001	0.00	-0.022	0.010	0.032	0.15
CEO-Descendant	0.059	0.008	-0.051	0.26	0.168	0.007	-0.161	1.33
CEO-Chair	0.055	-0.043	-0.098	1.57	0.141	-0.042	-0.183*	3.12*
CEO-Group	0.048	-0.047	-0.095	1.01	-0.009	-0.047	-0.038	0.12
BIG 4	-0.006	0.001	0.007	0.02	0.052	0.003	-0.049	0.66
Audit Partner Tenure	0.087**	0.009	-0.078	2.41	0.094*	0.010	-0.084	1.95
$EBIT_t$	1.133***	0.248	-0.885***	6.39***				
$CF_t$					1.119***	0.225	-0.894**	5.20**
$TAC_t$					1.163***	0.190	-0.973**	5.32**
$EBIT_{t-1}$	-1.086***	-0.035	1.051***	10.55***				
$CF_{t-1}$					-0.952***	-0.084	0.868**	4.75**
$TAC_{t-1}$					-1.027***	0.030	1.057***	7.51***
$BHAR_t$	-0.273***	-0.044*	0.229***	30.76***	-0.344***	-0.043*	0.301***	38.17***

(This table is continued on the next page)

**Table 6.9: Investors' Perception on the Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholder by their Types and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by types of shareholder, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel A: Model 6.3 – Ownership Concentration by Shareholders' Types (Cont')**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.7)		Regression (B)		Equality Test (Model 6.7)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
Firm Size	-0.051***	-0.052***	-0.001	0.00	-0.048***	-0.050***	-0.002	0.01
Firm Age	-0.033	-0.028	0.005	0.01	-0.055	-0.028	0.027	0.21
Sales Growth	-0.122***	-0.061	0.061	1.13	-0.186***	-0.061	0.125*	2.97*
Leverage	-0.208**	0.214***	0.422***	10.46***	-0.298**	0.208***	0.506***	10.10***
Book-to-Market	0.034***	0.106***	0.072***	7.60***	0.033**	0.105***	0.072***	7.10***
Constant	0.344	0.272			0.315	0.268		
No. of Obs.	1,211	2,067			664	2,063		
Adj. R-squared	0.117	0.055			0.151	0.055		
F-test	6.590	3.871			4.974	3.637		
p_value	0.000	0.000			0.000	0.000		



**Table 6.9: Investors' Perception on the Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholder by their Types and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by types of shareholder, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel B: Model 6.4 – The Presence of Dominant Shareholder by Shareholders' Types**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.8)		Regression (B)		Equality Test (Model 6.8)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
D_Family	0.028	0.041	0.013	0.02	0.120	0.044	-0.076	0.57
D_Government	0.184	0.293**	0.109	0.37	0.224	0.292**	0.068	0.13
D_Foreign	0.218***	0.060	-0.158	2.71	0.217**	0.060	-0.157	2.18
D_Domestic	-0.164	-0.014	0.150	0.99	-0.011	-0.008	0.003	0.00
D_Bank	-	-0.122	-	-	-	-0.122	-	-
D_Non-Bank Fin.	0.063	0.230	0.167	0.14	0.351	0.236	-0.115	0.06
Share Difference	0.039	-0.079	-0.118	1.14	-0.046	-0.082	-0.036	0.07
CV	0.012	0.035	0.023	0.04	0.051	0.032	-0.019	0.02
Board Size	0.175**	0.074	-0.101	0.98	0.177**	0.070	-0.107	0.94
Board								
Independence	0.599***	0.032	-0.567**	5.09**	0.856***	0.031	-0.825***	6.68***
Board Experience	0.034	0.260***	0.226**	3.88**	0.151	0.259***	0.108	0.63
CEO-Founder	-0.014	0.010	0.024	0.14	-0.046	0.012	0.058	0.54
CEO-Descendant	0.034	0.006	-0.028	0.08	0.131	0.006	-0.125	0.87
CEO-Chair	0.064	-0.039	-0.103	1.71	0.151	-0.039	-0.190*	3.27
CEO-Group	0.074	-0.039	-0.113	1.48	0.004	-0.039	-0.043	0.15
BIG 4	0.016	0.001	-0.015	0.09	0.074	0.003	-0.071	1.42
Audit Partner								
Tenure	0.080*	0.006	-0.074	2.19	0.098*	0.007	-0.091	2.25
$EBIT_t$	1.184***	0.238	-0.946***	7.26***				
$CF_t$					1.181***	0.218	-0.963**	5.92**
$TAC_t$					1.179***	0.172	-1.007**	5.64**
$EBIT_{t-1}$	-1.121***	-0.045	1.076***	11.27***				
$CF_{t-1}$					-0.942**	-0.096	0.846**	4.45**
$TAC_{t-1}$					-1.046***	0.011	1.057***	7.49***
$BHAR_t$	-0.272***	-0.045*	0.227***	30.39***	-0.343***	-0.044*	0.299***	39.22***

(This table is continued on the next page)

**Table 6.9: Investors' Perception on the Impact of Ownership Concentration by Types of Shareholder, the Presence of Dominant Shareholder by their Types and Other Corporate Governance Mechanisms on Firm Performance before and after the Corporate Governance Reforms (Cont')**

The table shows the results of OLS regressions to test whether investors can correctly perceive the impact of ownership concentration by types of shareholder, the presence of dominant shareholder by their types and other corporate governance mechanisms on firm performance before and after the corporate governance reforms. Dependent variable is  $BHAR_{t+1}$ , which is a one-year ahead 12-month buy and hold abnormal stock return. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables. A single regression using dummy variable approach is applied to test the equality of coefficients in pre and post-reform periods. This table shows only an incremental effect from post-reform period ( $Post \times$  variable) from the single regressions and the Wald test is performed to test the null hypothesis that  $\beta_{Pre} = \beta_{Post}$ . Asterisks denote statistical significance at 1% (\*\*\*) 5% (\*\*) or 10% (\*) level, respectively.

**Panel B: Model 6.4 – The Presence of Dominant Shareholder by Shareholders' Types (Cont')**

Explanatory Variables	$BHAR_{t+1}$				$BHAR_{t+1}$			
	Regression (A)		Equality Test (Model 6.8)		Regression (B)		Equality Test (Model 6.8)	
	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)	Pre-Reform	Post-Reform	Inct. Effect	Wald Test (F)
Firm Size	-0.046***	-0.052***	-0.006	0.10	-0.046***	-0.050***	-0.004	0.04
Firm Age	-0.021	-0.025	-0.004	0.00	-0.040	-0.025	0.015	0.07
Sales Growth	-0.115***	-0.064*	0.051	0.77	-0.159***	-0.064	0.095	1.72
Leverage	-0.207*	0.195**	0.402***	9.55***	-0.309**	0.188**	0.497***	9.86***
Book-to-Market	0.033**	0.104***	0.071***	7.51***	0.033**	0.103***	0.070***	7.07***
Constant	0.236	0.305			0.146	0.301		
No. of Obs.	1,211	2,067			664	2,063		
Adj. R-squared	0.109	0.056			0.145	0.056		
F-test	6.380	3.811			5.051	3.574		
p_value	0.000	0.000			0.000	0.000		

### ***6.6.4.3 Do Investors Better Perceive the Impact of Other Corporate Governance Mechanisms on Firm Performance?***

Panels A and B in Tables 6.8 and 6.9 report the OLS regression results estimated from Models 6.1 and 6.4 before and after the reforms.

The results show significantly positive signs for Board Size coefficients for both models, but only before the reforms, suggesting that investors misperceived the impact of board size on firm performance before the reforms and therefore tended to underestimate the impact of board size. However, this misperception largely disappeared after the reforms.

The equality test ( $H_{a33}$ ) reveals that the incremental effects in the post-reform period are negative but not significant. The Wald test suggests that investors tended to underestimate the impacts in both periods but no significant misperception incurred in the post-reform period. Hence it could imply that investors seem to have more positive perception of bigger board size in post-reform period in turn reducing the extremely negative perception in the pre-reform period.

The literature suggests that bigger boards are less efficient than smaller boards (Jensen, 1993; Lipton and Lorsch, 1992; Yermack, 1996). According to the findings of Chapter 4, board size was significantly and negatively related to accounting performance (ROA) before and after the reforms and to market performance (simplified Tobin's  $q$ ) only before the reforms.

Incorporated into the findings of this chapter, this evidence indicates that investors tended to have an overly negative perception of board size, leading them to expect a more negative effect of larger boards on firm performance than was actually the case before the reforms. After the reforms, the responsibility and accountability of directors has been particularly emphasised by regulators, and directors' training programmes have been launched in an effort to increase directors' awareness of their roles and responsibilities in respect to firms and shareholders. These factors may have increased

investors' confidence in the quality of boards and helped them to correctly perceive the impact of board size on firm performance after the reforms.

In respect to board independence, the results from all models report significantly positive signs of the coefficients of Board independence only before the reforms, indicating that investors tended to incorrectly perceive the impact of board independence on firm performance and therefore underestimate the impact of board independence on firm performance before the reform. However, the misperception disappeared after the reforms.

The equality test ( $H_{a34}$ ) reveals that the incremental effects in the post-reform period are significantly negative. The Wald test also suggests that the degrees of the misperception in pre-reform and post-reform periods are significantly different. Hence investors tended to have more positive perception of board independence after the reform and this perception significantly reduce their negative perception of this structure before the reform.

The evidence from Chapter 4 reports a significantly positive association between board independence and accounting performance, but only before the reforms. Therefore, the findings from this chapter suggest that investors tended to have a negative perception of board independence or they underestimate the impact of board independence before the reforms. In fact, the role of board independence was not well known in Thailand prior to the crisis and the subsequent reforms. Investors may have had little knowledge of how independent directors could help to improve firm performance or may have doubted whether independent directors were actually independent. These negative perceptions may have led them to incorrectly perceive the true impact of board independence on firm performance before the reforms. This finding also is inconsistent with evidence from the literature that suggests that investors are likely to have positive perceptions of board independence (for examples, see Lin et al., 2003; Nguyen et al., 2010; Rosenstein and Wyatt, 1990).

After the reforms, listed companies were required to have audit committees comprised of at least three independent directors. Although the Chapter 4 did not find a significant relationship between board independence and firm performance (accounting and market performance) after the reforms, investors may have had a better understanding of it and therefore correctly perceived the impact.

Regarding board experience, the results from all models report significantly positive signs for the coefficients of Board experience, but only after the reforms, suggesting that investors tended to incorrectly perceive the impact of board experience after the reforms and underestimated the impact of board experience on firm performance.

The equality test ( $H_{a35}$ ) reveals that the incremental effects in the post-reform period are significantly positive. The Wald test also suggests that the degrees of the misperception in pre-reform and post-reform periods are significantly different. Hence investors tended to have more negative perception of board experience after the reforms.

The evidence suggests that investors may have viewed directors who hold multiple directorships as being less efficient rather than more experienced, especially after the reforms (Ferris et al., 2003). In addition, the average number of directors in each board significantly increased after the reforms, partly due to the requirement for audit committees. Investors may have had the perception that these directors made less effort (in terms of time and resources) to efficiently monitor firms than those who held one directorship did. This negative perception of the impact of board experience on firm performance led them to underestimate the impact after the reforms.

Regarding auditor-partner tenure, the results from all models report significantly positive signs for the coefficients of Audit Partner Tenure, but only before the reforms, suggesting that investors tended to incorrectly perceive the impact of auditor-partner tenure after the reforms and to underestimate the impact of auditor experience on performance.

The equality test ( $H_{a41}$ ) reveals that the incremental effects in the post-reform period are negative but not significant. The Wald test suggests that investors tended to underestimate the impacts in both periods but no significant misperception incurred in the post-reform period. Hence it could imply that investors seem to have more positive perception of long auditor-partner tenure in post-reform period in turn reducing the extremely negative perception in the pre-reform period.

The evidence also suggests that investors' conviction that long auditor-partner tenures reduce auditor independence and audit quality resulted in a negative perception of their impact on firm performance before the reforms. The corporate governance reforms and the reform of accounting and auditing standards in line with international frameworks may have reduced negative investor perceptions and led to a correct perception of the impact of audit partner tenure on firm performance.

#### ***6.6.4.4 Other Control Variables***

This section further examines whether other control variables had any effect on investor perceptions before and after the reforms. The OLS regression results are consistent for all models (Model 6.1 to 6.4).

The results from Tables 6.8 and 6.9 show that investors tended to underestimate the ability of current earnings to predict future earnings before the reforms. In addition, they tended to underestimate the ability of the accruals and cash flow components of earnings to predict future earnings before the reforms. This may imply that underestimating before the reforms was due to both the accruals and the cash flow components of earnings. The evidence is inconsistent with Sloan (1996) and other research from the US that reports that investors are likely to underestimate the ability of cash flows but overestimate the ability of accruals components of earnings to predict future earnings. Nevertheless, this evidence is partly consistent with the findings of Pincus et al. (2007), who found that investors tended to underestimate the ability of cash flow components of earnings to predict future earnings in Thailand.

However, the evidence from the earnings components sample suggests that investors tended to overestimate one-year lagged earnings, cash flow and the accruals components of earnings before the reforms. This may imply that they had overoptimistic expectations from past firm performance but, when firm performance was announced and did not meet their expectations, they tended to underestimate the price of current earnings and earnings components. This evidence is consistent with the findings of Kraft et al. (2007) and suggests that the exclusion of other variables may influence the prediction of future earnings and returns and lead to problems (omitted variables) in forecast and pricing regressions that are based on the Mishkin test.

The misperception of past earnings and earnings components largely disappeared after the reforms, which suggests that investors then correctly perceived the ability of these accounting numbers to predict future earnings and returns. This may imply that the corporate governance and accounting standards reforms improved the quality of accounting information to some extent and thereby helped investors to use the information to predict future earnings and returns. The evidence in this study also suggests that the accruals anomaly found in other research may have been due to the period of study.

Regarding other control variables, the evidence from Tables 6.8 and 6.9 shows that, while firm size was significantly and negatively related to the one-year-ahead abnormal returns, the book-to-market ratio was significantly and positively related to them, before and after the reforms. This evidence is consistent with the findings of previous research in countries such as the US and Japan. Although investor perceptions could be an alternative explanation to risk factors, as suggested by Fama and French (1993), the relationship between firm size and the ratio of book-to-market or abnormal returns seems to have been consistent over time, regardless of the reforms.

Sales growth was significantly and negatively related to one-year-ahead abnormal returns, but only before the reforms. This may have been caused by an overoptimistic expectation of investors about future sales growth based on past performance, leading

them to overestimate the value of companies with high sales growth (Skinner and Sloan, 2002). Nevertheless, investors may have been able to extract better information from financial reports after the reforms, which allowed them to correctly perceive the impact of sales growth on firm performance.

Leverage was significantly and negatively related to one-year-ahead abnormal returns before the reforms but significantly and positively related to them after the reforms. In Thailand, many banks have close relationships with businesses (Limpaphayom and Polwitoon, 2004) and investors may have viewed high leverage before the reforms as an indication that firms had more access to funding from banks for investment. However, high leverage in listed firms was one of the reasons for the financial crisis. Therefore, investors may have believed that firms with high leverage had higher risks, leading to negative investor perceptions of high leverage after the reforms.

Finally, previous buy-and-hold abnormal returns were significantly and negatively related to one-year-ahead abnormal returns both before and after the reforms and in both samples, confirming the notion that investors had overoptimistic expectations of stock that performed well and overpriced it over time (Jegadeesh and Titman, 1993; Lakonishok et al., 1994; Skinner and Sloan, 2002). Nevertheless, the degree of the misperception of past abnormal returns was significantly reduced after the reforms, suggesting that investors then had more ability to use this information to predict future earnings and return.

#### ***6.6.4.5 Summary of the Impact of the Corporate Governance Reform on Investor Perceptions***

The findings reported in Section 6.6.4 suggest that, on average, investors tended to incorrectly perceive the impact of some ownership structures (such as foreign company and non-bank financial institutional investors' ownership) and other corporate governance mechanisms (such as board size, board independence and auditor experience) on firm performance before the reforms. Nevertheless, the investors' misperceptions of these impacts largely disappeared after the reforms.



Overall, the evidence suggests that the reforms helped the ability of investors to accurately estimate the impact of most ownership structures and other corporate governance factors on firm performance. This suggests that the capital market and listed companies have become much more transparent, making it easier for investors to develop realistic expectations after the reforms. The evidence also indicates that the publicity around the corporate governance reforms has helped to educate investors about the effectiveness (or lack of effectiveness) of corporate governance mechanisms. For example, investors' knowledge about the role of independent directors seems to have improved since the reforms. Although board independence did not significantly contribute to firm performance in reality, as shown in Chapter 4, the reforms have helped to reduce the investors' negative perceptions of board independence.

The evidence also suggests, however, that investors had more negative perceptions of government owned and controlled firms and of board experience only after the reforms. This may indicate that they responded to public criticism of the government (such as reports of unstable politics or political interference) in Thailand and that the reforms failed to improve investor confidence in these firms.

In addition, the government's focus on the promotion of certain corporate governance mechanisms, such as the requirement for audit committees to have at least three independent directors, may have led to some negative impressions. Investors may have become overly aware of the issue of directors' independence, and this belief might have given them an unduly negative impression of effectiveness of directors who were appointed by many companies (in terms of time, effort and independence). Therefore, they may have overlooked benefits that firms could receive from these directors (e.g. experience).

In conclusion, the reforms have partly achieved the aim of improved investor confidence in the Thai capital market. The government's promotion of the corporate governance reforms has improved investors' understanding of the important role of good corporate governance. The reforms have also helped to improve transparency and the ability of

investors to access public information, leading to greater accuracy in their perception of most corporate governance structures. Hence the evidence suggests that the objective of the Thai corporate governance reforms to improve market and firm transparency has been achieved to a considerable extent.

## **6.7 Sensitivity Analysis**

### **6.7.1 Test for Specification Errors**

#### ***6.7.1.1 Multicollinearity Testing***

The results from the Pearson and Spearman correlations shown in Table 6.3, Section 6.6.1, suggest that there is the imperfect multicollinearity among the independent variables. High levels of the multicollinearity problem would violate the assumptions of the OLS method, in which there are no perfect linear relationships among independent variables. Therefore, the VIF test was performed for all independent variables (including year and industry dummies) in all models.

The results of the VIF tests for the full sample<sup>20</sup> are presented in Table 6.10, Panels A.1 and B.1, and show that the VIFs in all specification models are less than 10, with mean VIFs of about 2. Therefore, the multicollinearity problem is not severe in any of the specification models used in this chapter.

#### ***6.7.1.2 Endogeneity Testing***

The existing literature highlights the endogeneity problem in studies of firm performance, ownership structure and other governance mechanisms. Therefore, the Durbin-Wu-Hausman Test was used to identify possible endogeneity problems in all models with exception of Models 6.2 and 6.4, which use dummy variables to identify the presence of dominant shareholders. The null hypothesis that was tested states that the ownership and board of director variables are both exogenous.

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<sup>20</sup> The VIF test and Durbin-Wu-Hausman Test were also performed for the samples from before and after the reforms. The unreported results show no serious problems with multicollinearity or endogeneity in either of the sub-samples.

The results for the full sample<sup>21</sup>, shown in Panels A.2 and B.2 in Table 6.10, show that the null hypothesis cannot be rejected for any of the models and suggest that all the ownership and board of directors variables are jointly exogenous in these samples. Therefore, the results from the main regressions are consistent.

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<sup>21</sup> See Footnote 18.

Table 6.10 Test for Model Specification Errors – Full Sample

Panel A.1: Variance Inflation Factors for Independent Variables for Model 6.1 and 6.2

Explanatory Variables	Model 6.1 – Ownership Concentration				Model 6.2 – Dominant Shareholder (Dummy)			
	Regression (A)		Regression (B)		Regression (A)		Regression (B)	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Concentrated Own (D_Dominant)	2.37	0.422	2.38	0.420	1.45	0.690	1.45	0.690
Share Difference	2.29	0.437	2.30	0.434	1.47	0.680	1.48	0.676
CV	1.36	0.733	1.37	0.732	1.36	0.735	1.36	0.737
Board Size	2.09	0.479	2.15	0.465	2.08	0.481	2.15	0.465
Board Independence	3.53	0.284	3.24	0.308	3.53	0.283	3.24	0.309
Board Experience	1.40	0.713	1.42	0.705	1.40	0.714	1.42	0.705
CEO-Founder	1.52	0.656	1.51	0.661	1.52	0.658	1.50	0.665
CEO Descendant	1.61	0.620	1.53	0.655	1.62	0.618	1.53	0.654
CEO-Chair	1.50	0.665	1.48	0.674	1.50	0.665	1.48	0.674
CEO-Group	1.57	0.637	1.47	0.680	1.56	0.639	1.47	0.682
BIG 4	1.15	0.873	1.16	0.859	1.15	0.873	1.16	0.860
Audit Partner	1.17	0.851	1.19	0.837	1.17	0.851	1.19	0.838
EBIT <sub><i>it</i></sub>	2.06	0.486			2.06	0.486		
CF <sub><i>it</i></sub>			6.38	0.157			6.38	0.157
TAC <sub><i>it</i></sub>			5.64	0.177			5.64	0.177
EBIT <sub><i>it-1</i></sub>	1.93	0.517			1.94	0.516		
CF <sub><i>it-1</i></sub>			6.54	0.153			6.57	0.152
TAC <sub><i>it-1</i></sub>			5.82	0.172			5.84	0.171
BHAR <sub><i>it</i></sub>	1.30	0.770	1.26	0.794	1.30	0.770	1.26	0.794
Firm Size	2.11	0.475	2.10	0.476	2.11	0.473	2.10	0.476
Firm Age	1.31	0.763	1.28	0.778	1.31	0.763	1.28	0.778
Sales Growth	1.22	0.817	1.23	0.814	1.23	0.816	1.23	0.811
Leverage	1.54	0.651	1.55	0.645	1.54	0.650	1.55	0.644
Book-to-Market	1.46	0.687	1.47	0.680	1.45	0.688	1.47	0.680
Mean VIF	2.10		2.72		2.05		2.67	

Panel A.2: Durbin-Wu-Hasman Test for Endogeneity

	H <sub>0</sub> : Residual of All Ownership Variables and board OD directors are Jointly	
	Durbin-Wu-Hasman	
	Model 6.1	
	Regression (A)	Regression (B)
Chi-sq	5.075	4.598
P-value	0.534	0.596

**Note:**

1. Industry and Year Dummy are included for all models.
2. Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*it-1*</sub>) as control variables.  
Regression (B) included cash flows (CF<sub>*it*</sub>), lagged cash flows (CF<sub>*it-1*</sub>) Total accruals (TAC<sub>*it*</sub>) and lagged total accruals (TAC<sub>*it-1*</sub>) as control variables.

Table 6.10 Test for Model Specification Errors – Full Sample (Cont')

Panel B.1: Variance Inflation Factors for Independent Variables for Model 6.3 and 6.4

Explanatory Variables	Model 6.3 – Ownership Concentration by Shareholders' Types				Model 6.4 – Dominant Shareholder by Shareholders' Types (Dummies)			
	Regression (A)		Regression (B)		Regression (A)		Regression (B)	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Family	2.76	0.363	2.74	0.364	2.44	0.410	2.48	0.403
Government	1.63	0.612	1.63	0.614	1.51	0.664	1.50	0.666
Foreign Com.	1.71	0.583	1.72	0.581	1.72	0.580	1.75	0.571
Domestic Com.	1.22	0.821	1.19	0.838	1.17	0.856	1.17	0.858
Bank	1.16	0.858	1.17	0.854	1.06	0.947	1.07	0.938
Non-Bank Fin.	1.15	0.867	1.14	0.881	1.05	0.956	1.06	0.947
Share Difference	1.59	0.627	1.60	0.625	1.52	0.656	1.54	0.649
CV	1.44	0.697	1.44	0.692	1.46	0.687	1.47	0.682
Board Size	2.13	0.470	2.23	0.449	2.11	0.475	2.19	0.456
Board Independence	3.54	0.282	3.26	0.307	3.55	0.282	3.27	0.306
Board Experience	1.48	0.674	1.49	0.669	1.42	0.704	1.44	0.695
CEO-Founder	1.58	0.632	1.56	0.639	1.56	0.642	1.53	0.652
CEO-Descendant	1.64	0.610	1.55	0.644	1.63	0.612	1.55	0.646
CEO-Chair	1.51	0.662	1.49	0.671	1.52	0.658	1.50	0.666
CEO-Group	1.61	0.622	1.50	0.665	1.59	0.629	1.50	0.667
BIG 4	1.22	0.817	1.24	0.804	1.20	0.831	1.22	0.822
Audit Partner	1.18	0.845	1.20	0.832	1.18	0.845	1.21	0.830
EBIT <sub><i>t</i></sub>	2.06	0.485			2.06	0.485		
CF <sub><i>t</i></sub>			6.40	0.156			6.39	0.157
TAC <sub><i>t</i></sub>			5.66	0.177			5.65	0.177
EBIT <sub><i>t-1</i></sub>	1.93	0.517			1.94	0.516		
CF <sub><i>t-1</i></sub>			6.56	0.153			6.58	0.152
TAC <sub><i>t-1</i></sub>			5.83	0.171			5.84	0.171
BHAR <sub><i>t</i></sub>	1.30	0.769	1.26	0.793	1.30	0.769	1.26	0.793
Firm Size	2.22	0.451	2.21	0.453	2.18	0.459	2.16	0.462
Firm Age	1.36	0.737	1.33	0.754	1.34	0.744	1.31	0.761
Sales Growth	1.23	0.816	1.23	0.814	1.23	0.814	1.23	0.810
Leverage	1.55	0.647	1.56	0.641	1.56	0.642	1.57	0.637
Book-to-Market	1.47	0.682	1.48	0.674	1.46	0.683	1.48	0.675
<b>Mean VIF</b>	2.04		2.60		2.01		2.57	

**Note:**

1. Industry and Year Dummy are included for all models.
2. Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*it-1*</sub>) as control variables.  
Regression (B) included cash flows (CF<sub>*it*</sub>), lagged cash flows (CF<sub>*it-1*</sub>) Total accruals (TAC<sub>*it*</sub>) and lagged total accruals (TAC<sub>*it-1*</sub>) as control variables.

**Table 6.10 Test for Model Specification Errors – Full Sample (Cont')****Panel B.2: Durbin-Wu-Hasman Test for Endogeneity**

	<b>H<sub>0</sub>: Residual of All Ownership Variables and board OD directors are Jointly</b>	
	<b>Durbin-Wu-Hasman</b>	
	<b>Model 6.3</b>	
	<b>Regression (A)</b>	<b>Regression (B)</b>
<b>Chi-sq</b>	8.049	6.585
<b>P-value</b>	0.709	0.832

**Note:**

1. Industry and Year Dummy are included for all models.
2. Regression (A) included earnings ( $EBIT_{it}$ ) and lagged earnings ( $EBIT_{it-1}$ ) as control variables.  
Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables.

**6.7.2 OLS Method (OLS) vs. the Mishkin Test (MT)**

Kraft et al. (2007) suggest that the OLS estimations from Models 6.1 to 6.4 should be asymptotically equivalent to the estimations obtained from the forecasting and pricing equations under the MT, with exception of  $v_{t+1}$  in equation M. Hence, when the sample size is large,  $\phi_i$  should be equal to  $\beta(\gamma_i - \gamma_i^*)$ .

As discussed in Section 6.4.1, the MT requires two equations for each model: a forecasting equation and a pricing equation. As an alternative test, Models 6.1 to 6.4 were re-estimated by the MT for all the samples. This study also restricts the samples to make them equal in order to compare the results between the two methods. The general forms of the two equations for each model are shown below.

Forecasting Equation:

$$\begin{aligned}
 \text{Earnings}_{t+1} = & \gamma_0 + \gamma_{k1} \text{Ownership Variables}_{it} + \gamma_{k2} \text{Board Structure} \\
 & + \gamma_{k3} \text{CEO Characteristics} + \gamma_{k4} \text{Auditor Reputation and Experience} \\
 & + \gamma_{k5} \text{Earnings (or Earnings components)} + \gamma_{k6} \text{Other Control Variables}_{it} \\
 & + \gamma_{k7} \text{Industry dummies} + \gamma_{k8} \text{Year dummies} + \mu_t \quad (6.5)
 \end{aligned}$$

Pricing Equation:

$$\begin{aligned} \text{BHAR}_{t+1} = & \beta(\text{Earnings}_{t+1} - \gamma_0^* - \gamma_{k1}^* \text{Ownership Structure}_{it} - \gamma_{k2}^* \text{Board Structure} \\ & + \gamma_{k3}^* \text{CEO Characteristics} + \gamma_{k4}^* \text{Auditor Reputation and Expertise} \\ & + \gamma_{k5}^* \text{Earnings (or Earnings components)} + \gamma_{k6}^* \text{Other Control Variables}_{it} \\ & + \gamma_{k7}^* \text{Industry dummies} + \gamma_{k8}^* \text{Year dummies}) + \varepsilon_{t+1} \end{aligned} \quad (6.6)$$

Under the EMH, the estimation of  $\gamma_k^*$  should not differ from  $\gamma_k$ . In other words, the EMH imposes a constraint that  $\gamma_k^* = \gamma_k$ , which is equivalent to testing whether  $\beta\gamma_k^* = \beta\gamma_k$ .

The results from the MT for each model are shown in Tables 6.11 and 6.12. Overall, the results from the two methods are generally consistent. However, the coefficients estimated from the OLS are not exactly equivalent<sup>1</sup> to those estimated from the MT approaches,  $\beta(\gamma_k - \gamma_k^*)$ , in the smaller samples (such as those smaller than 40,000). In addition, the results from the MT are consistent with the main results reported in Section 6.6.3.

Overall, the evidence from Table 6.11 (Panels A.1, A.2 and B.1, B.2) suggests that there is no strong evidence of investors' misperception of the impact of ownership concentration on firm performance according to MT.

When different types of shareholder are considered, the results (see Table 6.11) are consistent between the two approaches, confirming that investors negatively misperceived the impact of government block ownership and the presence of dominant government shareholders on firm performance (Panels C.1, C.2, D.1 and D.2). The results from the MT also confirm that investors misperceived the impact of foreign companies block ownership and the presence of dominant foreign shareholders on firm performance (Panel D.1 and D.2). Nevertheless, when cash flows and the accruals components of earnings were included as control variables, instead of earnings, no

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<sup>1</sup> The difference could be caused by the omission of  $v_{t+1}$  from equation J (Section 6.4.2). Kraft et al. (2007) suggest that this could indicate a slight increase in the standard error in the MT. The samples used in this study are much smaller than those used in accounting research and may therefore suffer if this error is ignored. However, it does not significantly affect most of the main results.

evidence of investors' misperception of foreign companies as block owners or dominant shareholders was found.

Regarding other corporate governance variables, the evidence that suggests that investors tended to incorrectly perceive the impact of the ratio of share differences disappears under the MT. Nevertheless, it is confirmed that investors misperceived the impact of board experience on firm performance. In addition, the estimation from the MT, suggests that investors also negatively misperceived the impact of auditor expertise (auditor partner tenure) on firm performance.

Regarding the pre-reform and post-reform samples, the evidence is mostly consistent between the two methods, as shown in Table 6.12.

In conclusion, this study suggests that the use of two equations (forecasting and pricing equations) in the MT could provide some advantages over the use of the OLS. Under the MT, researchers can also see the impact of the variables of interests on the prediction of firm performance (negative or positive). For example, under the MT, this study found that larger boards seem to have been less efficient than smaller boards before the reforms (forecasting equation). Additionally, investors seem to have realised this but their overly negative perceptions caused them to overestimate their negative impact (pricing equation). Therefore, although the OLS method is easier to implement, as suggested by Kraft et al. (2007), it could be helpful to apply the MT as well, in order to interpret the direction of investor perceptions more clearly. This study encourages future research to use both approaches, depending on the relevant research interests.



Table 6.11 Comparison between OLS and Mishkin Test

**Panel A.1: OLS Model 6.1: Investors' Perception and the Impact of Ownership Concentration on Firm Performance – Regression (A)**

Explanatory Variables	OLS		Mishkin Test				$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	
			Forecasting Equation (1)		Pricing Equation (2)			Diff. Coef. (1) – (2)
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
Concentrated Own	0.112	(1.41)	0.016	(1.44)	-0.029	(-1.04)	0.045	0.128
Share Difference	-0.094*	(-1.78)	-0.0005	(-0.07)	0.030	(1.60)	-0.030	-0.085
CV	0.033	(0.75)	-0.005	(-0.75)	-0.032**	(-2.22)	0.027*	0.077
Board Size	0.009	(0.18)	-0.006	(-0.78)	-0.028*	(-1.94)	0.022	0.062
Board Independence	-0.001	(-0.02)	-0.015	(-1.13)	0.008	(0.36)	-0.023	-0.065
Board Experience	0.140***	(2.81)	0.007	(1.03)	-0.056***	(-3.14)	0.063***	0.179
CEO-Founder	-0.003	(-0.10)	0.003	(0.78)	0.003	(0.31)	0.000	0.000
CEO Descendant	0.033	(0.83)	0.003	(0.66)	-0.004	(-0.32)	0.007	0.020
CEO-Chair	-0.033	(-1.02)	-0.004	(-0.78)	0.004	(0.32)	-0.008	-0.023
CEO-Group	-0.024	(-0.65)	-0.001	(-0.28)	0.004	(0.34)	-0.005	-0.014
BIG 4	-0.007	(-0.30)	-0.001	(-0.27)	0.003	(0.46)	-0.004	-0.011
Audit Partner Tenure	0.029	(1.38)	0.011***	(3.76)	-0.005	(-0.73)	0.016**	0.045
EBIT <sub><i>t</i></sub>	0.465***	(3.06)	0.502***	(15.89)	0.284***	(5.11)	0.218***	0.619
EBIT <sub><i>t-1</i></sub>	-0.129	(-0.97)	0.173***	(6.13)	0.248***	(5.08)	-0.075	-0.213
BHAR <sub><i>t</i></sub>	-0.090***	(-4.79)	0.019***	(6.02)	0.049***	(7.74)	-0.030***	-0.085
Firm Size	-0.042***	(-4.95)	0.003**	(2.08)	0.023***	(7.34)	-0.020***	-0.057
Firm Age	-0.009	(-0.43)	0.000	(0.10)	0.017**	(2.33)	-0.017**	-0.048
Sales Growth	-0.015	(-0.60)	-0.011**	(-2.37)	0.016*	(1.67)	-0.027***	-0.077
Leverage	0.104*	(1.89)	-0.012	(-1.59)	-0.053***	(-2.92)	0.041**	0.116
Book-to-Market	0.050***	(5.07)	-0.004**	(-2.14)	-0.022***	(-5.71)	0.018***	0.051
Constant	0.305*	(1.80)	0.033	(1.24)	-0.182***	(-3.15)	0.215***	0.611
Beta (Mishkin)					2.840***	(16.96)		
No. of Obs.	3,508				3,508			
F-Test (OLS)/LR Test (Mishkin)	18.75				345.66			
p value	0.000				0.000			
Adj. R-Square	0.173							

**Note:**

1. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*t-1*</sub>) as control variables

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

## Panel A.2: OLS Model 6.1: Investors' Perception and the Impact of Ownership Concentration on Firm Performance – Regression (B)

Explanatory Variables	OLS		Mishkin Test					$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
			Forecasting Equation (1)		Pricing Equation (2)		Diff. Coef. (1) – (2)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
Concentrated Own	0.085	(0.98)	0.016	(1.38)	-0.015	(-0.47)	0.031	0.084
Share Difference	-0.082	(-1.43)	-0.001	(-0.15)	0.023	(1.08)	-0.024	-0.065
CV	0.028	(0.59)	-0.004	(-0.66)	-0.034**	(-2.09)	0.030*	0.081
Board Size	-0.006	(-0.10)	0.000	(0.04)	-0.018	(-1.08)	0.018	0.049
Board Independence	-0.037	(-0.38)	-0.013	(-0.89)	0.020	(0.78)	-0.033	-0.089
Board Experience	0.190***	(3.47)	0.006	(0.84)	-0.083***	(-3.94)	0.089***	0.240
CEO-Founder	0.004	(0.11)	0.002	(0.40)	0.001	(0.05)	0.001	0.003
CEO-Descendant	0.028	(0.67)	-0.002	(-0.32)	-0.005	(-0.32)	0.003	0.008
CEO-Chair	-0.022	(-0.60)	0.007	(1.39)	0.010	(0.74)	-0.003	-0.008
CEO-Group	-0.043	(-1.11)	-0.001	(-0.22)	0.014	(0.96)	-0.015	-0.040
BIG 4	-0.004	(-0.15)	0.000	(0.09)	0.003	(0.40)	-0.003	-0.008
Audit Partner								
Tenure	0.023	(0.98)	0.009***	(2.80)	-0.005	(-0.66)	0.014	0.038
CF <sub><i>t</i></sub>	0.349**	(2.13)	0.465***	(12.44)	0.295***	(4.68)	0.170***	0.459
TAC <sub><i>t</i></sub>	0.277	(1.53)	0.454***	(11.16)	0.273***	(3.94)	0.181***	0.489
CF <sub><i>t-1</i></sub>	-0.100	(-0.70)	0.201***	(6.06)	0.254***	(4.50)	-0.053	-0.143
TAC <sub><i>t-1</i></sub>	-0.027	(-0.18)	0.190***	(5.48)	0.239***	(4.10)	-0.049	-0.132
BHAR <sub><i>t</i></sub>	-0.096***	(-4.57)	0.019***	(5.68)	0.049***	(6.61)	-0.030***	-0.081
Firm Size	-0.043***	(-4.60)	0.002*	(1.83)	0.022***	(6.43)	-0.020***	-0.054
Firm Age	-0.017	(-0.72)	-0.001	(-0.43)	0.020**	(2.25)	-0.021**	-0.057
Sales Growth	-0.012	(-0.41)	-0.006	(-1.03)	0.018	(1.64)	-0.024**	-0.065
Leverage	0.096	(1.58)	-0.020**	(-2.42)	-0.071***	(-3.37)	0.051**	0.138
Book-to-Market	0.052***	(4.49)	-0.004*	(-1.87)	-0.027***	(-5.80)	0.023***	0.062
Constant	0.435**	(2.22)	0.023	(0.77)	-0.194***	(-2.75)	0.217***	0.586
Beta (Mishkin)					2.699***	(14.11)		
No. of Obs.	2,879				2,879			
F-Test (OLS)/LR Test (Mishkin)	12.54				257.22			
p value	0.000				0.000			
Adj. R-Square	0.150							

## Note:

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows (CF<sub>*it*</sub>), lagged cash flows (CF<sub>*it-1*</sub>) Total accruals (TAC<sub>*it*</sub>) and lagged total accruals (TAC<sub>*it-1*</sub>) as control variables

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

## Panel B.1: OLS Model 6.2: Investors' Perception and the Impact of The Presence of Dominant Shareholder on Firm Performance – Regression (A)

Explanatory Variables	OLS		Mishkin Test					
			Forecasting Equation (1)		Pricing Equation (2)		Diff. Coef. (1) – (2)	$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
D_Dominant Share Difference	0.049	(1.64)	0.004	(0.88)	-0.010	(-0.94)	0.014	0.040
CV	-0.077*	(-1.73)	0.004	(0.73)	0.024	(1.55)	-0.020	-0.057
Board Size	0.032	(0.73)	-0.005	(-0.81)	-0.032**	(-2.18)	0.027*	0.077
Board Independence	0.003	(0.07)	-0.007	(-0.85)	-0.027*	(-1.89)	0.020	0.057
Board Experience	-0.003	(-0.04)	-0.015	(-1.11)	0.008	(0.34)	-0.023	-0.065
CEO-Founder	0.142***	(2.85)	0.007	(1.07)	-0.056***	(-3.15)	0.063***	0.179
CEO	-0.006	(-0.21)	0.003	(0.70)	0.004	(0.38)	-0.001	-0.003
Descendant	0.031	(0.78)	0.003	(0.65)	-0.004	(-0.29)	0.007	0.020
CEO-Chair	-0.032	(-0.98)	-0.004	(-0.76)	0.004	(0.30)	-0.008	-0.023
CEO-Group	-0.022	(-0.59)	-0.001	(-0.21)	0.004	(0.30)	-0.005	-0.014
BIG 4	-0.006	(-0.28)	-0.001	(-0.24)	0.003	(0.44)	-0.004	-0.011
Audit Partner Tenure	0.029	(1.34)	0.011***	(3.73)	-0.005	(-0.70)	0.016**	0.045
EBIT <sub><i>t</i></sub>	0.461***	(3.04)	0.502***	(15.89)	0.284***	(5.13)	0.218***	0.619
EBIT <sub><i>t-1</i></sub>	-0.138	(-1.04)	0.173***	(6.12)	0.249***	(5.09)	-0.076	-0.216
BHAR <sub><i>t</i></sub>	-0.089***	(-4.78)	0.019***	(6.03)	0.048***	(7.71)	-0.029***	-0.082
Firm Size	-0.043***	(-5.03)	0.002**	(2.00)	0.023***	(7.41)	-0.021***	-0.060
Firm Age	-0.008	(-0.40)	0.000	(0.12)	0.017**	(2.30)	-0.017**	-0.047
Sales Growth	-0.014	(-0.55)	-0.011**	(-2.38)	0.016*	(1.66)	-0.027***	-0.077
Leverage	0.101*	(1.84)	-0.013*	(-1.65)	-0.052***	(-2.87)	0.039**	0.111
Book-to-Market	0.049***	(5.04)	-0.004**	(-2.16)	-0.022***	(-5.69)	0.018***	0.051
Constant	0.326*	(1.95)	0.036	(1.38)	-0.187***	(-3.28)	0.223***	0.634
Beta (Mishkin)					2.841***	(16.98)		
No. of Obs.	3,508				3,508			
F-Test (OLS)/ LRTest (Mishkin)	18.84				345.11			
p value	0.000				0.000			
Adj. R-Square	0.173							

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*t-1*</sub>) as control variables.

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

## Panel B.2: OLS Model 6.2: Investors' Perception and the Impact of the Presence of Dominant Shareholder on Firm Performance – Regression (B)

Explanatory Variables	OLS		Mishkin Test				$\phi_{OLS} = \beta(\gamma_t - \gamma_t^*)$	
			Forecasting Equation (1)		Pricing Equation (2)			Diff. Coef. (1) – (2)
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
D_Dominant	0.055*	(1.69)	0.003	(0.65)	-0.014	(-1.19)	0.017	0.046
Share Difference	-0.080*	(-1.69)	0.004	(0.70)	0.026	(1.48)	-0.022	-0.059
CV	0.028	(0.59)	-0.005	(-0.75)	-0.035**	(-2.13)	0.030*	0.081
Board Size	-0.012	(-0.22)	0.000	(-0.03)	-0.017	(-1.01)	0.017	0.045
Board Independence	-0.038	(-0.39)	-0.012	(-0.85)	0.020	(0.81)	-0.032	-0.086
Board Experience	0.191***	(3.49)	0.006	(0.88)	-0.083***	(-3.94)	0.089***	0.240
CEO-Founder	0.002	(0.06)	0.001	(0.32)	0.001	(0.07)	0.000	0.000
CEO-Descendant	0.026	(0.62)	-0.002	(-0.30)	-0.004	(-0.27)	0.002	0.005
CEO-Chair	-0.021	(-0.58)	0.007	(1.39)	0.010	(0.72)	-0.003	-0.008
CEO-Group	-0.042	(-1.08)	-0.001	(-0.17)	0.014	(0.95)	-0.015	-0.040
BIG 4	-0.003	(-0.13)	0.000	(0.13)	0.003	(0.40)	-0.003	-0.008
Audit Partner Tenure	0.022	(0.93)	0.008***	(2.76)	-0.005	(-0.62)	0.013	0.035
CF <sub><i>t</i></sub>	0.345**	(2.11)	0.466***	(12.45)	0.296***	(4.71)	0.170***	0.459
TAC <sub><i>t</i></sub>	0.277	(1.53)	0.454***	(11.17)	0.274***	(3.96)	0.180***	0.486
CF <sub><i>t-1</i></sub>	-0.114	(-0.80)	0.201***	(6.06)	0.257***	(4.55)	-0.056	-0.151
TAC <sub><i>t-1</i></sub>	-0.038	(-0.25)	0.190***	(5.48)	0.243***	(4.15)	-0.053	-0.143
BHAR <sub><i>t</i></sub>	-0.096***	(-4.57)	0.019***	(5.68)	0.049***	(6.59)	-0.030***	-0.081
Firm Size	-0.044***	(-4.67)	0.002*	(1.77)	0.022***	(6.46)	-0.020***	-0.054
Firm Age	-0.017	(-0.70)	-0.001	(-0.43)	0.019**	(2.24)	-0.020**	-0.054
Sales Growth	-0.010	(-0.32)	-0.006	(-1.03)	0.017	(1.57)	-0.023**	-0.062
Leverage	0.093	(1.52)	-0.021**	(-2.48)	-0.069***	(-3.32)	0.048**	0.130
Book-to-Market	0.052***	(4.50)	-0.004*	(-1.88)	-0.027***	(-5.82)	0.023***	0.062
Constant	0.453**	(2.33)	0.026	(0.91)	-0.197***	(-2.82)	0.223***	0.602
Beta (Mishkin)					2.699***	(14.11)		
No. of Obs.	2,879				2,879			
F-Test (OLS)/LR Test (Mishkin)	12.69				258.88			
p value	0.000				0.000			
Adj. R-Square	0.151							

## Note:

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows (CF<sub>*it*</sub>), lagged cash flows (CF<sub>*it-1*</sub>) Total accruals (TAC<sub>*it*</sub>) and lagged total accruals (TAC<sub>*it-1*</sub>) as control variables.

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

**Panel C.1: OLS Model 6.3: Investors' Perception and the Impact of Ownership Concentration by Shareholders' Types on Firm Performance – Regression (A)**

Explanatory Variables	OLS		Mishkin Test				$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	
			Forecasting Equation (1)		Pricing Equation (2)			Diff. Coef. (1) – (2)
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
Family Own	0.013	(0.18)	0.014	(1.37)	-0.006	(-0.23)	0.020	0.057
Government Own	0.540**	(2.57)	0.053**	(2.39)	-0.118*	(-1.84)	0.171***	0.484
Foreign Com. Own	0.199**	(2.33)	0.037***	(2.97)	-0.036	(-1.24)	0.073**	0.207
Domestic Com.Own	-0.093	(-0.72)	0.019	(0.87)	0.036	(0.84)	-0.017	-0.048
Bank Own	0.056	(0.12)	0.118*	(1.90)	0.125	(0.78)	-0.007	-0.020
Non-Bank Fin. Own	-0.334	(-0.94)	-0.023	(-0.55)	0.083	(0.68)	-0.106	-0.300
Share Difference	-0.040	(-0.91)	0.005	(0.75)	0.019	(1.26)	-0.014	-0.040
CV	0.003	(0.07)	-0.007	(-0.98)	-0.025*	(-1.68)	0.018	0.051
Board Size	-0.013	(-0.26)	-0.009	(-1.16)	-0.023	(-1.58)	0.014	0.040
Board Independence	-0.018	(-0.20)	-0.017	(-1.26)	0.012	(0.53)	-0.029	-0.082
Board Experience	0.136***	(2.66)	0.005	(0.73)	-0.057***	(-3.13)	0.062***	0.175
CEO-Founder	0.010	(0.35)	0.006	(1.30)	0.001	(0.12)	0.005	0.014
CEO Descendant	0.043	(1.08)	0.005	(1.02)	-0.007	(-0.51)	0.012	0.034
CEO-Chair	-0.031	(-0.95)	-0.003	(-0.66)	0.004	(0.31)	-0.007	-0.020
CEO-Group	-0.016	(-0.42)	-0.001	(-0.23)	0.003	(0.21)	-0.004	-0.011
BIG 4	-0.014	(-0.64)	-0.003	(-0.83)	0.004	(0.48)	-0.007	-0.020
Audit Partner Tenure	0.028	(1.31)	0.011***	(3.76)	-0.005	(-0.68)	0.016**	0.045
EBIT <sub><i>t</i></sub>	0.459***	(3.05)	0.499***	(15.89)	0.284***	(5.12)	0.215***	0.608
EBIT <sub><i>t-1</i></sub>	-0.134	(-1.01)	0.173***	(6.15)	0.249***	(5.07)	-0.076	-0.215
BHAR <sub><i>t-1</i></sub>	-0.092***	(-4.93)	0.019***	(6.03)	0.049***	(7.80)	-0.030***	-0.085
Firm Size	-0.049***	(-5.64)	0.002	(1.61)	0.025***	(7.61)	-0.023***	-0.065
Firm Age	-0.011	(-0.49)	0.000	(0.00)	0.016**	(2.21)	-0.016**	-0.045
Sales Growth	-0.016	(-0.61)	-0.011**	(-2.34)	0.016*	(1.74)	-0.027***	-0.076
Leverage	0.102*	(1.85)	-0.012	(-1.60)	-0.052***	(-2.86)	0.040**	0.113
Book-to-Market	0.048***	(4.94)	-0.004**	(-2.12)	-0.021***	(-5.56)	0.017***	0.048
Constant	0.483***	(2.73)	0.046*	(1.67)	-0.229***	(-3.71)	0.275***	0.778
Beta (Mishkin)					2.830***	(16.91)		
No. of Obs.	3,508				3,508			
F-Test (OLS) /LR Test (Mishkin)	17.01				363.55			
p value	0.000				0.000			
Adj. R-Square	0.175							

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*t-1*</sub>) as control variables.

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

Panel C.2: OLS Model 6.3: Investors' Perception and the Impact of Ownership Concentration by Shareholders' Types on Firm Performance – Regression (B)

Explanatory Variables	OLS		Mishkin Test					$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
			Forecasting Equation (1)		Pricing Equation (2)		Diff. Coef. (1) – (2)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
Family Own	0.018	(0.23)	0.013	(1.21)	-0.006	(-0.21)	0.019	0.051
Government Own	0.605***	(2.58)	0.043*	(1.76)	-0.153**	(-2.02)	0.196***	0.527
Foreign Com. Own	0.114	(1.26)	0.026*	(1.94)	-0.015	(-0.47)	0.041	0.110
Domestic Com. Own	-0.057	(-0.41)	0.023	(1.03)	0.036	(0.72)	-0.013	-0.035
Bank Own	-0.191	(-0.38)	0.058	(0.93)	0.135	(0.72)	-0.077	-0.207
Non-Bank Fin. Own	-0.468	(-1.17)	-0.054	(-1.21)	0.081	(0.55)	-0.135	-0.363
Share Difference	-0.048	(-1.03)	0.003	(0.51)	0.020	(1.19)	-0.017	-0.046
CV	0.003	(0.06)	-0.005	(-0.74)	-0.028	(-1.62)	0.023	0.062
Board Size	-0.034	(-0.61)	-0.003	(-0.33)	-0.011	(-0.64)	0.008	0.022
Board Independence	-0.057	(-0.59)	-0.014	(-1.01)	0.025	(0.98)	-0.039*	-0.105
Board Experience	0.184***	(3.25)	0.005	(0.69)	-0.082***	(-3.78)	0.087***	0.234
CEO-Founder	0.010	(0.33)	0.003	(0.65)	-0.001	(-0.08)	0.004	0.011
CEO Descendant	0.036	(0.85)	-0.0001	(-0.03)	-0.007	(-0.46)	0.007	0.019
CEO-Chair	-0.021	(-0.58)	0.007	(1.43)	0.010	(0.74)	-0.003	-0.008
CEO-Group	-0.037	(-0.92)	-0.001	(-0.21)	0.012	(0.85)	-0.013	-0.035
BIG 4	-0.005	(-0.20)	-0.001	(-0.25)	0.002	(0.23)	-0.003	-0.008
Audit Partner Tenure	0.020	(0.88)	0.008***	(2.76)	-0.005	(-0.60)	0.013	0.035
CF <sub><i>t</i></sub>	0.340**	(2.09)	0.464***	(12.46)	0.297***	(4.72)	0.167***	0.449
TAC <sub><i>t</i></sub>	0.272	(1.51)	0.454***	(11.20)	0.273***	(3.94)	0.181***	0.487
CF <sub><i>t-1</i></sub>	-0.102	(-0.71)	0.201***	(6.07)	0.255***	(4.48)	-0.054	-0.145
TAC <sub><i>t-1</i></sub>	-0.029	(-0.19)	0.191***	(5.50)	0.240***	(4.07)	-0.049	-0.132
BHAR <sub><i>t-1</i></sub>	-0.098***	(-4.70)	0.019***	(5.70)	0.050***	(6.68)	-0.031***	-0.083
Firm Size	-0.049***	(-5.18)	0.002	(1.40)	0.024***	(6.61)	-0.022***	-0.059
Firm Age	-0.015	(-0.59)	-0.002	(-0.50)	0.017*	(1.93)	-0.019**	-0.051
Sales Growth	-0.012	(-0.40)	-0.006	(-1.07)	0.019*	(1.72)	-0.025**	-0.067
Leverage	0.092	(1.51)	-0.020**	(-2.39)	-0.070***	(-3.33)	0.050**	0.135
Book-to-Market	0.050***	(4.36)	-0.004*	(-1.84)	-0.027***	(-5.69)	0.023***	0.062
Constant	0.616***	(3.04)	0.037	(1.22)	-0.239***	(-3.22)	0.276***	0.743
Beta (Mishkin)					2.691***	(14.08)		
No. of Obs.	2,879				2,879			
F-Test (OLS)								
/LRTest (Mishkin)	11.52				271.46			
p value	0.000				0.000			
Adj. R-Square	0.152							

Note:

1. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows ( $CF_{it}$ ), lagged cash flows ( $CF_{it-1}$ ) Total accruals ( $TAC_{it}$ ) and lagged total accruals ( $TAC_{it-1}$ ) as control variables.

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

**Panel D.1: OLS Model 6.2: Investors' Perception and the Impact of the Presence of Dominant Shareholder by Shareholders' Types on Firm Performance – Regression (A)**

Explanatory Variables	OLS		Mishkin Test					$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
			Forecasting Equation (1)		Pricing Equation (2)		Diff. Coef. (1) – (2)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
D_Family	0.021	(0.64)	0.001	(0.24)	-0.005	(-0.43)	0.006	0.017
D_Government	0.244***	(2.82)	0.018**	(1.97)	-0.055*	(-1.94)	0.073***	0.207
D_Foreign	0.098**	(2.57)	0.009*	(1.66)	-0.020	(-1.50)	0.029**	0.082
D_Domestic	-0.054	(-0.93)	-0.001	(-0.06)	0.026	(1.42)	-0.027	-0.076
D_Bank	-0.044	(-0.39)	-0.004	(-0.33)	0.041	(0.95)	-0.045	-0.127
D_Non-Bank Fin.	0.152	(0.74)	-0.002	(-0.16)	-0.040	(-0.60)	0.038	0.108
Share Difference	-0.053	(-1.17)	0.006	(1.04)	0.019	(1.24)	-0.013	-0.037
CV	-0.009	(-0.19)	-0.009	(-1.27)	-0.022	(-1.46)	0.013	0.037
Board Size	-0.012	(-0.24)	-0.008	(-1.01)	-0.023	(-1.63)	0.015	0.042
Board Independence	-0.023	(-0.26)	-0.016	(-1.17)	0.010	(0.45)	-0.026	-0.074
Board Experience	0.136***	(2.72)	0.007	(1.08)	-0.055***	(-3.05)	0.062***	0.175
CEO-Founder	0.007	(0.26)	0.004	(0.97)	0.001	(0.06)	0.003	0.008
CEO Descendant	0.038	(0.96)	0.004	(0.88)	-0.006	(-0.46)	0.010	0.028
CEO-Chair	-0.025	(-0.77)	-0.003	(-0.60)	0.002	(0.20)	-0.005	-0.014
CEO-Group	-0.009	(-0.23)	0.0001	(0.03)	0.001	(0.04)	-0.001	-0.003
BIG 4	-0.009	(-0.43)	-0.001	(-0.41)	0.003	(0.40)	-0.004	-0.011
Audit Partner Tenure	0.028	(1.30)	0.011***	(3.62)	-0.005	(-0.67)	0.016**	0.045
EBIT <sub><i>t</i></sub>	0.452***	(3.00)	0.501***	(15.88)	0.286***	(5.15)	0.215***	0.608
EBIT <sub><i>t-1</i></sub>	-0.145	(-1.09)	0.173***	(6.13)	0.251***	(5.11)	-0.078	-0.221
BHAR <sub><i>t-1</i></sub>	-0.091***	(-4.92)	0.018***	(5.98)	0.049***	(7.77)	-0.031***	-0.088
Firm Size	-0.048***	(-5.47)	0.002	(1.62)	0.024***	(7.50)	-0.022***	-0.062
Firm Age	-0.009	(-0.44)	0.000	(0.09)	0.016**	(2.15)	-0.016**	-0.045
Sales Growth	-0.014	(-0.56)	-0.011**	(-2.39)	0.016*	(1.72)	-0.027***	-0.076
Leverage	0.092*	(1.69)	-0.013*	(-1.72)	-0.049***	(-2.70)	0.036*	0.102
Book-to-Market	0.047***	(4.82)	-0.004**	(-2.26)	-0.021***	(-5.52)	0.017***	0.048
Constant	0.472***	(2.73)	0.049*	(1.80)	-0.223***	(-3.67)	0.272***	0.770
Beta (Mishkin)					2.830***	(16.91)		
No. of Obs.	3,508				3,508			
F-Test (OLS)								
/LRTest (Mishkin)	16.82				363.16			
p value	0.000				0.000			
Adj. R-Square	0.175							

**Note:**

- \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
- All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
- Regression (A) included earnings (EBIT<sub>*it*</sub>) and lagged earnings (EBIT<sub>*t-1*</sub>) as control variables.

Table 6.11 Comparison between OLS and Mishkin Test (Cont')

**Panel D.2: OLS Model 6.2: Investors' Perception and the Impact of the Presence of Dominant Shareholder by Shareholders' Types on Firm Performance – Regression (B)**

Explanatory Variables	OLS		Mishkin Test					$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
			Forecasting Equation (1)		Pricing Equation (2)		Diff. Coef. (1) – (2)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>		
D_Family	0.030	(0.85)	0.0005	(0.11)	-0.010	(-0.82)	0.010	0.028
D_Government	0.276***	(2.93)	0.015	(1.50)	-0.072**	(-2.19)	0.087***	0.234
D_Foreign	0.080**	(1.97)	0.008	(1.27)	-0.017	(-1.11)	0.025	0.067
D_Domestic	-0.009	(-0.15)	0.001	(0.05)	0.009	(0.41)	-0.008	-0.022
D_Bank	-0.048	(-0.43)	-0.002	(-0.13)	0.035	(0.78)	-0.037	-0.100
D_Non-Bank Fin.	0.159	(0.68)	-0.001	(-0.06)	-0.063	(-0.78)	0.062	0.167
Share Difference	-0.060	(-1.25)	0.006	(0.96)	0.023	(1.33)	-0.017	-0.046
CV	-0.006	(-0.12)	-0.008	(-1.14)	-0.027	(-1.56)	0.019	0.051
Board Size	-0.032	(-0.59)	-0.002	(-0.22)	-0.011	(-0.68)	0.009	0.024
Board Independence	-0.064	(-0.65)	-0.013	(-0.94)	0.024	(0.95)	-0.037	-0.100
Board Experience	0.184***	(3.34)	0.006	(0.90)	-0.081***	(-3.81)	0.087***	0.234
CEO-Founder	0.013	(0.41)	0.002	(0.54)	-0.002	(-0.19)	0.004	0.011
CEO-Descendant	0.033	(0.79)	-0.0004	(-0.09)	-0.007	(-0.45)	0.007	0.018
CEO-Chair	-0.016	(-0.43)	0.007	(1.53)	0.009	(0.66)	-0.002	-0.005
CEO-Group	-0.029	(-0.74)	0.0003	(0.05)	0.011	(0.74)	-0.011	-0.029
BIG 4	-0.003	(-0.14)	-0.0001	(-0.02)	0.002	(0.23)	-0.002	-0.006
Audit Partner Tenure	0.021	(0.89)	0.008***	(2.64)	-0.005	(-0.61)	0.013	0.035
CF <sub><i>t</i></sub>	0.332**	(2.04)	0.465***	(12.43)	0.299***	(4.75)	0.166***	0.447
TAC <sub><i>t</i></sub>	0.259	(1.43)	0.454***	(11.15)	0.277***	(3.99)	0.177***	0.476
CF <sub><i>t-1</i></sub>	-0.115	(-0.81)	0.201***	(6.07)	0.260***	(4.57)	-0.059	-0.159
TAC <sub><i>t-1</i></sub>	-0.046	(-0.30)	0.190***	(5.48)	0.246***	(4.17)	-0.056	-0.151
BHAR <sub><i>t-1</i></sub>	-0.097***	(-4.69)	0.019***	(5.66)	0.050***	(6.64)	-0.031***	-0.083
Firm Size	-0.048***	(-5.05)	0.002	(1.47)	0.024***	(6.55)	-0.022***	-0.059
Firm Age	-0.014	(-0.56)	-0.001	(-0.43)	0.017*	(1.93)	-0.018**	-0.048
Sales Growth	-0.011	(-0.36)	-0.006	(-1.08)	0.019*	(1.70)	-0.025**	-0.067
Leverage	0.079	(1.31)	-0.021**	(-2.52)	-0.066***	(-3.16)	0.045**	0.121
Book-to-Market	0.049***	(4.27)	-0.004**	(-1.97)	-0.026***	(-5.67)	0.022***	0.059
Constant	0.590***	(2.96)	0.039	(1.28)	-0.231***	(-3.12)	0.270***	0.727
Beta (Mishkin)					2.691***	(14.05)		
No. of Obs.	2,879				2,879			
F-Test (OLS) /								
LR Test (Mishkin)	11.41				271.94			
p value	0.000				0.000			
Adj. R-Square	0.152							

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows (CF<sub>*it*</sub>), lagged cash flows (CF<sub>*it-1*</sub>) Total accruals (TAC<sub>*it*</sub>) and lagged total accruals (TAC<sub>*it-1*</sub>) as control variables.



Table 6.12 Comparison between OLS and Mishkin Test - Before and After the Corporate Governance Reforms

Panel A.1: OLS Model 6.1 – Investors' Perception and the Ownership Concentration – Regression (A)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Concentrated Own	0.317*	0.004	-0.185**	0.189**	0.348	0.108	0.026**	-0.017	0.043	0.089
Share Difference	-0.098	0.013	0.079	-0.066	-0.122	-0.106	-0.009	0.041	-0.050	-0.103
CV	0.065	0.003	-0.036	0.039	0.072	0.065	-0.010	-0.055**	0.045	0.093
Board Size	0.189***	-0.018*	-0.134***	0.116***	0.214	0.107	-0.006	-0.056*	0.050	0.103
Board Independence	0.641***	0.006	-0.372***	0.378***	0.697	0.064	-0.021	-0.040	0.019	0.039
Board Experience	0.018	0.004	-0.005	0.009	0.017	0.276***	0.010	-0.131***	0.141***	0.290
CEO-Founder	-0.034	-0.005	0.002	-0.007	-0.013	0.004	0.006	0.005	0.001	0.002
CEO-Descendant	0.040	0.008	-0.022	0.030	0.055	0.002	0.001	0.008	-0.007	-0.014
CEO-Chair	0.056	-0.010	-0.022	0.012	0.022	-0.041	0.001	0.017	-0.016	-0.033
CEO-Group	0.041	-0.007	-0.032	0.025	0.046	-0.050	0.001	0.018	-0.017	-0.035
BIG 4	0.025	-0.001	-0.013	0.012	0.022	-0.003	0.003	0.013	-0.010	-0.021
Audit Partner Tenure	0.083**	0.011**	-0.039*	0.050**	0.092	0.006	0.014***	0.016	-0.002	-0.004
EBIT <sub>t</sub>	1.225***	0.463***	-0.306*	0.769***	1.417	0.249	0.473***	0.358***	0.115	0.237
EBIT <sub>t-1</sub>	-1.060***	0.170***	0.693***	-0.523***	-0.964	-0.024	0.211***	0.231***	-0.020	-0.041
BHAR <sub>t</sub>	-0.270***	0.017***	0.156***	-0.139***	-0.256	-0.043*	0.021***	0.040***	-0.019	-0.039

(This table is continued on the next page)

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform

Panel A.1: OLS Model 6.1 – Investors' Perception and the Ownership Concentration – Regression (A)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.042***	0.003	0.030***	-0.027***	-0.050	-0.047***	0.003*	0.024***	-0.021***	-0.043
Firm Age	-0.003	0.005	0.024	-0.019	-0.035	-0.034	0.001	0.018	-0.017	-0.035
Sales Growth	-0.119***	-0.004	0.052**	-0.056**	-0.103	-0.059	-0.012*	0.009	-0.021	-0.043
Leverage	-0.206**	0.000	0.119**	-0.119**	-0.219	0.219***	-0.007	-0.109***	0.102***	0.210
Book-to-Market	0.035***	-0.004*	-0.020***	0.016**	0.029	0.108***	-0.005*	-0.056***	0.051***	0.105
Constant	0.033	0.004	-0.062	0.066	0.122	0.122	0.012	-0.034	0.046	0.095
Beta (Mishkin)			1.843***					2.059***		
No. of Obs.	1,208	1,208				2,065	2,065			
LR Test (MT) or F-Test (OLS)	6.816	233.62				4.562	133.31			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.106					0.054				

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (A) included earnings (EBIT<sub>it</sub>) and lagged earnings (EBIT<sub>t-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel A.2: OLS Model 6.1 – Investors' Perception and the Ownership Concentration - Regression (B)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Concentrated Own	0.255	0.005	-0.179	0.184	0.299	0.112	0.024*	-0.021	0.045	0.095
Share Difference	-0.080	0.018	0.061	-0.043	-0.070	-0.108	-0.008	0.043	-0.051	-0.107
CV	0.090	-0.005	-0.064	0.059	0.096	0.061	-0.009	-0.051*	0.042	0.088
Board Size	0.201**	-0.006	-0.141**	0.135	0.219**	0.103	-0.005	-0.053*	0.048	0.101
Board Independence	0.886***	0.031	-0.543**	0.574	0.932**	0.062	-0.025	-0.042	0.017	0.036
Board Experience	0.131	-0.002	-0.088	0.086	0.140	0.275***	0.009	-0.128***	0.137***	0.288
CEO-Founder	-0.048	-0.018	-0.006	-0.012	-0.019	0.006	0.006	0.004	0.002	0.004
CEO-Descendant	0.144	0.002	-0.081	0.083	0.135	0.002	0.000	0.007	-0.007	-0.015
CEO-Chair	0.134	0.020*	-0.046	0.066	0.107	-0.040	0.002	0.017	-0.015	-0.032
CEO-Group	-0.023	-0.015	-0.005	-0.010	-0.016	-0.049	0.002	0.019	-0.017	-0.036
BIG 4	0.069	0.002	-0.032	0.034	0.055	-0.001	0.003	0.012	-0.009	-0.019
Audit Partner Tenure	0.108**	0.004	-0.067**	0.071	0.115**	0.007	0.014***	0.016	-0.002	-0.004
CF <sub>t</sub>	1.199***	0.383***	-0.476	0.859	1.394***	0.231	0.450***	0.350***	0.100	0.210
TAC <sub>t</sub>	1.222***	0.365***	-0.508	0.873	1.417***	0.189	0.422***	0.345***	0.077	0.162
CF <sub>t-1</sub>	-0.877**	0.216***	0.653**	-0.437	-0.709	-0.073	0.221***	0.260***	-0.039	-0.082
TAC <sub>t-1</sub>	-0.982***	0.205***	0.738***	-0.533	-0.865*	0.041	0.225***	0.214**	0.011	0.023
BHAR <sub>t</sub>	-0.339***	0.014**	0.215***	-0.201	-0.326***	-0.042*	0.022***	0.040***	-0.018	-0.038

(This table is continued on the next page)

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel A.2: OLS Model 6.1 – Investors' Perception and the Ownership Concentration - Regression (B) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.044**	0.001	0.030**	-0.029	-0.047**	-0.045***	0.002	0.022***	-0.020***	-0.042
Firm Age	-0.038	0.006	0.062**	-0.056	-0.091*	-0.034	0.000	0.017	-0.017	-0.035
Sales Growth	-0.170***	0.008	0.099**	-0.091	-0.148**	-0.060	-0.009	0.012	-0.021	-0.044
Leverage	-0.300**	-0.006	0.202**	-0.208	-0.338**	0.214***	-0.011	-0.106***	0.095***	0.200
Book-to-Market	0.033**	-0.005*	-0.019**	0.014	0.023	0.106***	-0.006**	-0.055***	0.049***	0.103
Constant	0.030	0.021	-0.065	0.086	0.140	0.122	0.020	-0.024	0.044	0.092
Beta (Mishkin)			1.623***					2.102***		
No. of Obs.	663	663				2,061	2,061			
LR Test (MT) or F-Test (OLS)	5.599	202.20				4.215	134.28			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.145					0.054				

**Note:**

- \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
- All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
- Regression (B) included cash flows (CF<sub>it</sub>), lagged cash flows (CF<sub>it-1</sub>) Total accruals (TAC<sub>it</sub>) and lagged total accruals (TAC<sub>it-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel B.1: OLS Model 6.2 – Investors' Perception and the Presence of Dominant Shareholder - Regression (A)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
D_Dominant	0.076	-0.002	-0.029	0.027	0.050	0.052	0.006	-0.014	0.020	0.041
Share Difference	-0.014	0.017	0.018	-0.001	-0.002	-0.089	-0.001	0.042	-0.043	-0.088
CV	0.066	0.002	-0.035	0.037	0.068	0.062	-0.011	-0.055**	0.044	0.091
Board Size	0.172**	-0.018*	-0.124***	0.106***	0.196	0.101	-0.006	-0.055*	0.049	0.101
Board Independence	0.603***	0.006	-0.352**	0.358***	0.662	0.067	-0.019	-0.039	0.020	0.041
Board Experience	0.035	0.004	-0.013	0.017	0.031	0.273***	0.009	-0.130***	0.139***	0.286
CEO-Founder	-0.040	-0.005	0.004	-0.009	-0.017	0.002	0.005	0.005	0.000	0.000
CEO Descendant	0.028	0.008	-0.017	0.025	0.046	0.002	0.001	0.008	-0.007	-0.014
CEO-Chair	0.061	-0.010	-0.022	0.012	0.022	-0.041	0.001	0.017	-0.016	-0.033
CEO-Group	0.057	-0.007	-0.042	0.035	0.065	-0.049	0.001	0.018	-0.017	-0.035
BIG 4	0.027	-0.002	-0.014	0.012	0.022	-0.002	0.003	0.013	-0.010	-0.021
Audit Partner Tenure	0.081*	0.012**	-0.039*	0.051***	0.094	0.005	0.013***	0.016	-0.003	-0.006
EBIT <sub>t</sub>	1.220***	0.464***	-0.308*	0.772***	1.427	0.247	0.474***	0.360***	0.114	0.235
EBIT <sub>t-1</sub>	-1.074***	0.170***	0.698***	-0.528***	-0.976	-0.036	0.211***	0.235***	-0.024	-0.049
BHAR <sub>t</sub>	-0.268***	0.017***	0.154***	-0.137***	-0.253	-0.043*	0.021***	0.040***	-0.019	-0.039

(This table is continued on the next page)

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel B.1: OLS Model 6.2 – Investors' Perception and the Presence of Dominant Shareholder - Regression (A) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.042***	0.003	0.030***	-0.027***	-0.050	-0.048***	0.002	0.024***	-0.022***	-0.045
Firm Age	-0.003	0.005	0.024	-0.019	-0.035	-0.032	0.001	0.017	-0.016	-0.033
Sales Growth	-0.122***	-0.004	0.054**	-0.058***	-0.107	-0.058	-0.012*	0.009	-0.021	-0.043
Leverage	-0.206**	-0.0003	0.118**	-0.118***	-0.219	0.216***	-0.008	-0.107***	0.099***	0.204
Book-to-Market	0.036***	-0.004*	-0.020***	0.016***	0.030	0.108***	-0.005*	-0.056***	0.051***	0.105
Constant	0.096	0.005	-0.104	0.109	0.202	0.141	0.017	-0.036	0.053	0.109
Beta (Mishkin)			1.849***					2.058***		
No. of Obs.	1,208	1,208				2,065	2,065			
LR Test (MT) or F-Test (OLS)	6.621	229.17				4.634	133.79			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.104					0.055				

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (A) included earnings (EBIT<sub>it</sub>) and lagged earnings (EBIT<sub>t-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel B.2: OLS Model 6.2 – Investors' Perception and the Presence of Dominant Shareholder - Regression (B)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
D_Dominant	0.157*	-0.003	-0.066	0.063	0.103	0.054	0.004	-0.017	0.021	0.044
Share Difference	-0.089	0.023	0.031	-0.008	-0.013	-0.092	0.001	0.043	-0.042	-0.088
CV	0.094	-0.006	-0.059	0.053	0.087	0.058	-0.010	-0.051*	0.041	0.086
Board Size	0.177**	-0.006	-0.127**	0.121	0.198	0.097	-0.005	-0.051	0.046	0.097
Board Independence	0.846***	0.032	-0.520**	0.552**	0.904	0.065	-0.024	-0.042	0.018	0.038
Board Experience	0.161	-0.002	-0.103	0.101	0.165	0.272***	0.009	-0.126***	0.135***	0.284
CEO-Founder	-0.060	-0.018	-0.002	-0.016	-0.026	0.004	0.005	0.004	0.001	0.002
CEO Descendant	0.126	0.002	-0.071	0.073	0.120	0.002	0.000	0.007	-0.007	-0.014
CEO-Chair	0.146	0.020*	-0.050	0.070	0.115	-0.040	0.002	0.017	-0.015	-0.032
CEO-Group	-0.015	-0.014	-0.011	-0.003	-0.005	-0.049	0.002	0.019	-0.017	-0.036
BIG 4	0.073	0.002	-0.034	0.036	0.059	-0.001	0.003	0.012	-0.009	-0.019
Audit Partner Tenure	0.094*	0.004	-0.061*	0.065**	0.106	0.006	0.014***	0.016	-0.002	-0.004
CF <sub>t</sub>	1.200***	0.383***	-0.472	0.855***	1.400	0.227	0.452***	0.352***	0.100	0.210
TAC <sub>t</sub>	1.203***	0.366***	-0.493	0.859***	1.406	0.190	0.423***	0.346***	0.077	0.162
CF <sub>t-1</sub>	-0.926**	0.217***	0.672**	-0.455	-0.745	-0.084	0.222***	0.265***	-0.043	-0.090
TAC <sub>t-1</sub>	-1.030***	0.205***	0.757***	-0.552**	-0.904	0.032	0.226***	0.218**	0.008	0.017
BHAR <sub>t</sub>	-0.339***	0.014**	0.213***	-0.199***	-0.326	-0.042*	0.022***	0.039***	-0.017	-0.036

(This table is continued on the next page)

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel B.2: OLS Model 6.2 – Investors' Perception and the Presence of Dominant Shareholder - Regression (B) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.046***	0.001	0.031***	-0.030***	-0.049	-0.046***	0.002	0.022***	-0.020***	-0.042
Firm Age	-0.037	0.005	0.062**	-0.057**	-0.093	-0.033	0.000	0.016	-0.016	-0.033
Sales Growth	-0.164***	0.008	0.094**	-0.086**	-0.141	-0.058	-0.010	0.012	-0.022	-0.046
Leverage	-0.315**	-0.005	0.207**	-0.212**	-0.347	0.210***	-0.011	-0.105***	0.094***	0.198
Book-to-Market	0.034**	-0.005*	-0.020**	0.015	0.025	0.106***	-0.006**	-0.055***	0.049***	0.103
Constant	0.110	0.023	-0.122	0.145	0.237	0.141	0.026	-0.026	0.052	0.109
Beta (Mishkin)			1.637***					2.103***		
No. of Obs.	663	663				2,061	2,061			
LR Test (MT) or F-Test (OLS)	5.700	203.810				4.269	134.760			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.148					0.054				

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows (CF<sub>it</sub>), lagged cash flows (CF<sub>it-1</sub>) Total accruals (TAC<sub>it</sub>) and lagged total accruals (TAC<sub>it-1</sub>) as control variables.



Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel C.1: OLS Model 6.3 – Investors' Perception and the Ownership Concentration by Shareholders' Types - Regression (A)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Family Own	0.041	0.003	-0.034	0.037	0.065	0.069	0.017	-0.011	0.028	0.057
Government Own	0.521	0.064	-0.067	0.131	0.232	0.559**	0.038	-0.255**	0.293***	0.602
Foreign Own	0.651***	0.079***	-0.259**	0.338***	0.598	0.080	0.028**	0.005	0.023	0.047
Domestic Own	-0.168	-0.021	0.064	-0.085	-0.150	0.042	0.046*	0.013	0.033	0.068
Bank Own	0.717	0.261**	0.020	0.241	0.427	-0.468	0.034	0.220	-0.186	-0.382
Non-Bank Fin. Own.	-1.258**	-0.003	0.672*	-0.675*	-1.195	-0.259	-0.083	-0.042	-0.041	-0.084
Share Difference	0.047	0.021*	0.004	0.017	0.030	-0.078	-0.001	0.041	-0.042	-0.086
CV	0.048	0.000	-0.038	0.038	0.067	0.051	-0.010	-0.047*	0.037	0.076
Board Size	0.163**	-0.018*	-0.125***	0.107**	0.189	0.079	-0.009	-0.039	0.030	0.062
Board Independence	0.569**	0.004	-0.351**	0.355***	0.628	0.043	-0.022	-0.026	0.004	0.008
Board Experience	0.027	0.000	-0.019	0.019	0.034	0.268***	0.009	-0.127***	0.136***	0.279
CEO-Founder	0.008	0.001	-0.010	0.011	0.019	0.009	0.007	0.003	0.004	0.008
CEO-Descendant	0.059	0.012	-0.030	0.042	0.074	0.009	0.003	0.004	-0.001	-0.002
CEO-Chair	0.055	-0.009	-0.018	0.009	0.016	-0.043	0.001	0.017	-0.016	-0.033
CEO-Group	0.048	-0.007	-0.036	0.029	0.051	-0.047	0.0005	0.016	-0.016	-0.032
BIG 4	-0.006	-0.005	-0.002	-0.003	-0.005	0.001	0.002	0.007	-0.005	-0.010
Audit Partner Tenure	0.089**	0.013**	-0.045**	0.058***	0.103	0.009	0.014***	0.015	-0.001	-0.002
EBIT <sub>t</sub>	1.142***	0.452***	-0.318*	0.770***	1.363	0.249	0.474***	0.362***	0.112	0.230
EBIT <sub>t-1</sub>	-1.088***	0.172***	0.727***	-0.555***	-0.982	-0.033	0.210***	0.239***	-0.029	-0.060
BHAR <sub>t</sub>	-0.275***	0.016***	0.163***	-0.147***	-0.260	-0.045*	0.021***	0.041***	-0.020*	-0.041

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Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel C.1: OLS Model 6.3 – Investors' Perception and the Ownership Concentration by Shareholders' Types - Regression (A) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.052***	0.003	0.035***	-0.032***	-0.057	-0.052***	0.002	0.026***	-0.024***	-0.049
Firm Age	-0.034	0.002	0.041**	-0.039*	-0.069	-0.025	0.001	0.011	-0.010	-0.021
Sales Growth	-0.123***	-0.004	0.059**	-0.063**	-0.112	-0.059	-0.012*	0.011	-0.023	-0.047
Leverage	-0.204*	0.001	0.116*	-0.115*	-0.204	0.220***	-0.006	-0.108***	0.102***	0.209
Book-to-Market	0.035***	-0.004*	-0.020**	0.016***	0.028	0.106***	-0.005*	-0.054***	0.049***	0.101
Constant	0.350	0.012	-0.217	0.229	0.405	0.259	0.026	-0.103	0.129	0.265
Beta (Mishkin)			1.770***					2.053***		
No. of Obs.	1,208	1208				2,065	2,065			
LR Test (MT) or F-Test (OLS)	6.555	261.52				3.844	141.92			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.117					0.055				

**Note:**

- \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
- All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
- Regression (A) included earnings (EBIT<sub>it</sub>) and lagged earnings (EBIT<sub>t-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel C.2: OLS Model 6.3 – Investors' Perception and the Ownership Concentration by Shareholders' Types - Regression (B)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma^*_i)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma^*_i)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Family Own	0.096	0.008	-0.064	0.072	0.111	0.075	0.015	-0.017	0.032	0.067
Government Own	0.646	0.105	-0.034	0.139	0.214	0.558**	0.030	-0.262**	0.292***	0.613
Foreign Own	0.547**	0.097***	-0.211	0.308*	0.474	0.080	0.024*	0.001	0.023	0.048
Domestic Own	-0.380	-0.065	0.107	-0.172	-0.265	0.054	0.044*	0.007	0.037	0.078
Bank Own	1.750	0.257	-0.278	0.535	0.823	-0.471	0.040	0.225	-0.185	-0.388
Non-Bank Fin. Own.	-1.256*	0.005	0.839*	-0.834*	-1.284	-0.264	-0.091*	-0.050	-0.041	-0.086
Share Difference	0.013	0.026	0.003	0.023	0.035	-0.080	0.000	0.041	-0.041	-0.087
CV	0.063	-0.011	-0.063	0.052	0.080	0.049	-0.008	-0.043	0.035	0.073
Board Size	0.146*	-0.012	-0.123**	0.111*	0.171	0.075	-0.008	-0.035	0.027	0.057
Board Independence	0.860***	0.036	-0.556**	0.592***	0.911	0.041	-0.026*	-0.028	0.002	0.004
Board Experience	0.117	-0.006	-0.102	0.096	0.148	0.267***	0.009	-0.123***	0.132***	0.277
CEO-Founder	-0.024	-0.012	-0.010	-0.002	-0.003	0.010	0.006	0.002	0.004	0.008
CEO-Descendant	0.167	0.008	-0.081	0.089	0.137	0.009	0.002	0.003	-0.001	-0.002
CEO-Chair	0.141	0.022*	-0.043	0.065	0.100	-0.042	0.002	0.018	-0.016	-0.034
CEO-Group	-0.009	-0.012	-0.006	-0.006	-0.009	-0.047	0.002	0.017	-0.015	-0.031
BIG 4	0.054	-0.001	-0.027	0.026	0.040	0.003	0.002	0.007	-0.005	-0.010
Audit Partner Tenure	0.096*	0.004	-0.070*	0.074**	0.114	0.010	0.014***	0.015	-0.001	-0.002
CF <sub>t</sub>	1.108***	0.366***	-0.510	0.876***	1.348	0.226	0.451***	0.355***	0.096	0.201
TAC <sub>t</sub>	1.147***	0.348***	-0.557	0.905***	1.393	0.194	0.424***	0.344***	0.080	0.168
CF <sub>t-1</sub>	-0.941***	0.213***	0.703**	-0.490	-0.754	-0.081	0.221***	0.269***	-0.048	-0.101

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Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel C.2: OLS Model 6.3 – Investors' Perception and the Ownership Concentration by Shareholders' Types - Regression (B) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
TAC <sub>t-1</sub>	-1.017***	0.204***	0.778***	-0.574*	-0.883	0.034	0.226***	0.221**	0.005	0.010
BHAR <sub>t</sub>	-0.345***	0.013**	0.227***	-0.214***	-0.329	-0.044*	0.022***	0.041***	-0.019*	-0.040
Firm Size	-0.048***	0.001	0.034***	-0.033***	-0.051	-0.050***	0.002	0.024***	-0.022***	-0.046
Firm Age	-0.056	0.004	0.076**	-0.072**	-0.111	-0.025	0.000	0.010	-0.010	-0.021
Sales Growth	-0.187***	0.007	0.111**	-0.104**	-0.160	-0.060	-0.009	0.014	-0.023	-0.048
Leverage	-0.291**	-0.002	0.195*	-0.197*	-0.303	0.214***	-0.010	-0.106***	0.096***	0.201
Book-to-Market	0.035**	-0.005*	-0.022**	0.017	0.026	0.105***	-0.006**	-0.054***	0.048***	0.101
Constant	0.314	0.030	-0.221	0.251	0.386	0.255	0.033	-0.092	0.125	0.262
Beta (Mishkin)			1.539***					2.098***		
No. of Obs.	663	663				2,061	2,061			
LR Test (MT) or F-Test (OLS)	4.982	220.01				3.609	143.01			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.152					0.055				

**Note:**

1. \* p&lt;0.10, \*\* p&lt;0.05, \*\*\* p&lt;0.01

2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.

3. Regression (B) included cash flows (CF<sub>it</sub>), lagged cash flows (CF<sub>it-1</sub>) Total accruals (TAC<sub>it</sub>) and lagged total accruals (TAC<sub>it-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel D.1: OLS Model 6.4 – Investors' Perception and the Presence of Dominant Shareholder by Shareholders' Types - Regression (A)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
D_Family	0.026	-0.009	-0.014	0.005	0.009	0.040	0.004	-0.010	0.014	0.029
D_Government	0.181	0.017	-0.025	0.042	0.076	0.292**	0.017	-0.126**	0.143***	0.293
D_Foreign	0.216***	0.014	-0.084*	0.098**	0.177	0.057	0.011	-0.010	0.021	0.043
D_Domestic	-0.166	-0.024	0.068	-0.092	-0.167	-0.012	0.011	0.020	-0.009	-0.018
D_Bank	0.000	-	-	-	-	-0.122	-0.002	0.041	-0.043	-0.088
D_Non-Bank Fin.	0.062	0.022	0.034	-0.012	-0.022	0.230	-0.011	-0.129	0.118	0.242
Share Difference	0.042	0.024**	0.000	0.024	0.043	-0.080	0.000	0.041	-0.041	-0.084
CV	0.013	-0.005	-0.022	0.017	0.031	0.039	-0.013*	-0.044	0.031	0.064
Board Size	0.175**	-0.018*	-0.129***	0.111***	0.201	0.073	-0.009	-0.037	0.028	0.057
Board Independence	0.600***	0.008	-0.356**	0.364***	0.659	0.034	-0.022	-0.020	-0.002	-0.004
Board Experience	0.032	0.003	-0.015	0.018	0.033	0.261***	0.010	-0.124***	0.134***	0.275
CEO-Founder	-0.015	-0.002	-0.003	0.001	0.002	0.011	0.006	0.001	0.005	0.010
CEO-Descendant	0.034	0.010	-0.019	0.029	0.052	0.007	0.002	0.003	-0.001	-0.002
CEO-Chair	0.063	-0.009	-0.022	0.013	0.024	-0.040	0.002	0.016	-0.014	-0.029
CEO-Group	0.074	-0.005	-0.047	0.042	0.076	-0.040	0.002	0.015	-0.013	-0.027
BIG 4	0.017	-0.002	-0.010	0.008	0.014	0.001	0.002	0.009	-0.007	-0.014
Audit Partner Tenure	0.082**	0.012**	-0.041*	0.053**	0.096	0.006	0.013***	0.016	-0.003	-0.006
EBIT <sub>t</sub>	1.183***	0.459***	-0.313*	0.772***	1.397	0.239	0.474***	0.364***	0.110	0.226
EBIT <sub>t-1</sub>	-1.116***	0.166***	0.722***	-0.556***	-1.006	-0.042	0.212***	0.244***	-0.032	-0.066
BHAR <sub>t</sub>	-0.273***	0.016***	0.159***	-0.143***	-0.259	-0.045*	0.021***	0.041***	-0.020*	-0.041

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Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel D.1: OLS Model 6.4 – Investors' Perception and the Presence of Dominant Shareholder by Shareholders' Types - Regression (A) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
Firm Size	-0.046***	0.003	0.031***	-0.028***	-0.051	-0.052***	0.002	0.026***	-0.024***	-0.049
Firm Age	-0.022	0.003	0.032*	-0.029	-0.052	-0.022	0.002	0.011	-0.009	-0.018
Sales Growth	-0.116***	-0.003	0.054**	-0.057**	-0.103	-0.063	-0.012*	0.013	-0.025	-0.051
Leverage	-0.202*	0.001	0.117**	-0.116**	-0.210	0.200***	-0.008	-0.101***	0.093***	0.191
Book-to-Market	0.034**	-0.004*	-0.020**	0.016**	0.029	0.104***	-0.005**	-0.054***	0.049***	0.100
Constant	0.229	0.023	-0.140	0.163	0.295	0.292	0.031	-0.121	0.152	0.312
Beta (Mishkin)			1.810***					2.051***		
No. of Obs.	1,208	1,208				2,065	2,065			
LR Test (MT) or F-Test (OLS)	6.346	242.69				3.774	144.52			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.109					0.056				

**Note:**

- \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
- All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
- Regression (A) included earnings (EBIT<sub>it</sub>) and lagged earnings (EBIT<sub>t-1</sub>) as control variables.

Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel D.2: OLS Model 6.4 – Investors' Perception and the Presence of Dominant Shareholder by Shareholders' Types - Regression (B)

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
D_Family	0.115	-0.014	-0.059	0.045	0.073	0.043	0.002	-0.013	0.015	0.031
D_Government	0.220	0.014	-0.043	0.057	0.092	0.291**	0.013	-0.128**	0.141***	0.296
D_Foreign	0.213**	0.013	-0.086	0.099	0.160	0.057	0.008	-0.013	0.021	0.044
D_Domestic	-0.016	-0.077**	-0.093	0.016	0.026	-0.007	0.010	0.016	-0.006	-0.013
D_Bank	-	-	-	-	-	-0.122	-0.005	0.038	-0.043	-0.090
D_Non-Bank Fin.	0.349	0.034	-0.078	0.112	0.181	0.235	-0.011	-0.129	0.118	0.247
Share Difference	-0.042	0.036**	0.023	0.013	0.021	-0.083	0.002	0.043	-0.041	-0.086
CV	0.050	-0.019	-0.056	0.037	0.060	0.036	-0.012	-0.040	0.028	0.059
Board Size	0.179**	-0.006	-0.130**	0.124**	0.200	0.069	-0.007	-0.033	0.026	0.054
Board Independence	0.863***	0.034	-0.530**	0.564**	0.911	0.033	-0.026	-0.023	-0.003	-0.006
Board Experience	0.148	-0.006	-0.105	0.099	0.160	0.260***	0.009	-0.120***	0.129***	0.270
CEO-Founder	-0.048	-0.014	-0.003	-0.011	-0.018	0.013	0.006	0.000	0.006	0.012
CEO-Descendant	0.131	0.003	-0.074	0.077	0.124	0.007	0.002	0.002	0.000	0.000
CEO-Chair	0.150	0.021*	-0.052	0.073	0.118	-0.039	0.003	0.017	-0.014	-0.029
CEO-Group	0.004	-0.009	-0.012	0.003	0.005	-0.039	0.003	0.015	-0.012	-0.025
BIG 4	0.075	0.003	-0.032	0.035	0.057	0.003	0.003	0.008	-0.005	-0.010
Audit Partner Tenure	0.100*	0.005	-0.064*	0.069**	0.111	0.007	0.014***	0.016	-0.002	-0.004
CF <sub>t</sub>	1.171***	0.376***	-0.479	0.855***	1.381	0.219	0.451***	0.356***	0.095	0.199
TAC <sub>t</sub>	1.166***	0.357***	-0.501	0.858***	1.386	0.176	0.424***	0.349***	0.075	0.157
CF <sub>t-1</sub>	-0.931**	0.214***	0.682**	-0.468	-0.756	-0.093	0.222***	0.275***	-0.053	-0.111

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Table 6.12 Comparison between OLS and Mishkin Test - Pre and Post the Corporate Governance Reform (Cont')

Panel D.2: OLS Model 6.4 – Investors' Perception and the Presence of Dominant Shareholder by Shareholders' Types - Regression (B) (Cont')

Explanatory Variables	Pre-Reform					Post-Reform				
	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$	OLS	Mishkin Test (MT)			$\phi_{OLS} = \beta(\gamma_i - \gamma_i^*)$
	BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)		BHAR <sub>t+1</sub>	Forecasting Equation (1) EBIT <sub>t+1</sub>	Pricing Equation (2) BHAR <sub>t+1</sub>	Coef. Diff. (1) – (2)	
TAC <sub>t-1</sub>	-1.036***	0.202***	0.767***	-0.565**	-0.912	0.015	0.227***	0.228**	-0.001	-0.002
BHAR <sub>t</sub>	-0.343***	0.013**	0.216***	-0.203***	-0.328	-0.044*	0.022***	0.041***	-0.019*	-0.040
Firm Size	-0.046***	0.001	0.031**	-0.030**	-0.048	-0.050***	0.002	0.025***	-0.023***	-0.048
Firm Age	-0.041	0.005	0.066**	-0.061**	-0.099	-0.022	0.001	0.010	-0.009	-0.019
Sales Growth	-0.160***	0.009	0.095**	-0.086*	-0.139	-0.063	-0.010	0.016	-0.026	-0.054
Leverage	-0.303**	-0.002	0.206**	-0.208**	-0.336	0.193**	-0.011	-0.098***	0.087**	0.182
Book-to-Market	0.034**	-0.005*	-0.020**	0.015	0.024	0.103***	-0.006**	-0.053***	0.047***	0.099
Constant	0.142	0.032	-0.127	0.159	0.257	0.287	0.039	-0.110	0.149	0.312
Beta (Mishkin)			1.615***					2.096***		
No. of Obs.	663	663				2,061	2,061			
LR Test (MT) or F-Test (OLS)	5.057	207.68				3.537	145.53			
p_value	0.000	0.000				0.000	0.000			
Adj. R-Square	0.145					0.056				

**Note:**

1. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01
2. All variables definitions are shown in Table 6.1. Industry and Year Dummy are included for all models.
3. Regression (B) included cash flows (CF<sub>it</sub>), lagged cash flows (CF<sub>it-1</sub>) Total accruals (TAC<sub>it</sub>) and lagged total accruals (TAC<sub>it-1</sub>) as control variables.



## **6.8 Chapter Summary and Conclusions**

While previous research tended to be limited to investigating whether investors can correctly use financial variables to predict firm performance, this research has aimed to also consider (1) whether they can correctly perceive the impact of ownership structure and other corporate governance characteristics on firm performance and (2) whether corporate governance reforms might affect the accuracy of investor perceptions of the impacts.

In order to test whether investors can correctly perceive the impact of ownership structure and corporate governance mechanisms on firm performance, this study has applied the OLS method suggested by Kraft et al. (2007). This study has also applied the Mishkin Test (1983), which includes the same set of variables, as an alternative methodology. The study has noted that one advantage of the MT over the OLS approach is that it provides clearer information on the direction of investors' misperceptions, which cannot be seen under the OLS. Therefore, subject to the requirements of future research, this study has recommended the application of both methodologies.

Regarding the first and third questions on investor perceptions of the impact of ownership structure on firm performance for all periods and sub-periods, the findings have suggested that investors tended to correctly perceive the impact of ownership concentration and the presence of dominant shareholders on firm performance in the periods that were studied. However, the findings on the sub-periods have revealed that investors may have had an overly negative perception of ownership concentration before the reform, although the results are not consistent when the MT is applied.

Regarding different types of shareholder, the evidence has revealed that investors tend to have a negative perception of both types of shareholder (government and foreign companies), which leads them to underestimate the impact of their ownership on firm performance. In addition, investors seem to underestimate the impact of the presence of these shareholder types on firm performance when they are the dominant shareholders. Nevertheless, evidence from the sub-periods has suggested that the misperception of the

impact of government and foreign company investors block ownership on firm performance existed in different periods.

The evidence has revealed that the investors' negative perception of government block ownership and the presence of dominant government shareholders appears only after the reforms, and may be caused by the unstable political situation and less confidence in government transparency in Thailand, especially after the reforms. Investors therefore overlook the true benefit that these structures contribute to firms.

The evidence has also suggested that investors tend to misperceive the impact of foreign company investors block ownership and the existence of dominant foreign shareholders on firm performance, but only before the reforms. The negative perception may have arisen from the restricted Foreign Company Law (1972), which allowed foreign companies to do business in Thailand with some restrictions such as limited share ownership. In addition, investors may feel uncomfortable with a monitoring process in firms that are mainly owned by foreigners because of a lack of knowledge about these companies compared their knowledge of domestic companies, which are normally run by well-known families.

The second and third questions focus on investor perceptions of the impact of other corporate governance mechanisms on firm performance for all periods and sub-periods. Regarding boards of directors, the evidence has suggested that investors tend to misperceive the impact of board experience on firm performance and that investors might take the view that directors with multiple directorships may be too busy rather than they have more experience when it comes to monitoring managers. Nevertheless, the evidence from the sub-periods has shown that this misperception appeared only after the reforms.

The sub-period findings have also suggested that investors tend to have negative perceptions of board size and board independence, but only before the reforms. These may be due to a lack of knowledge about the contribution of independent directors to firms and a negative perception of larger boards, which may suffer from problems such

as the free-rider problem or poor communication between board members. Although the evidence from previous chapters does not strongly support the notion that firms benefit from having larger boards and more independent directors, it seems that investor perceptions of these mechanisms have improved after the reforms. As a result, they tend to have correctly perceived the impact of these mechanisms on firm performance after the reforms. Hence the reforms that focused on improving the quality of boards of directors (in terms of independence, for example) seem to have been successful in improving investors' confidence, even if these mechanisms have not significantly improved firm performance in practice.

This study attempted to add potential variables, which were addressed, to influence to future earnings and returns. There is evidence of the misperception of both accounting and non-accounting information, which may imply that many investors still have some limitations on their ability to correctly predict future earnings and returns. This study suggests that ownership structure and other corporate governance mechanisms have some influence on the prediction of future earnings and returns. Therefore, future research that applies the MT could consider adding these variables in order to reduce the problem of omitted variables in the MT.

This study has some limitations. Firstly, the OLS method, which applied from Kraft et al., (2007) and the MT are based on the assumption that all omitted variables were rationally priced by investors. Therefore, findings need to be interpreted with caution.

Secondly, the sample used in this study is smaller than those used in accounting research in countries such as the US and therefore the OLS approach and the MT have not provided results that are exactly equivalent to those of Kraft et al. (2007). Nevertheless, the results from the two methods have been shown to be consistent within this study. It will be interesting for future research to repeat the tests with larger samples.

Thirdly, many factors might affect investor perceptions of ownership structure and other corporate governance mechanisms that have not been captured by the methodologies used in this study. However, this study aims to understand investor perceptions in

general; therefore, no attempt has been made to identify the actual sources of misperception. It will be interesting for future research to use other methods, such as surveys, to examine investor perceptions of these variables directly.

Finally, the evidence from this chapter has suggested that the corporate governance reforms have succeeded, to some extent, in improving investors' confidence and ability to use public available information. The Thai capital market has also become more transparent and more efficient after the reforms. This study proposes that a key to the success of corporate governance reform is its efficiency in conveying its role to investors. Nevertheless, policy makers and market regulators may need to promote awareness of the responsibility and accountability of boards of directors on a continuous basis and to closely monitor the efficiency of boards in practice.

## **Chapter 7: Concluding Remarks**

### **7.1 Introduction**

It has been almost a century since Berle and Mean (1932) attracted academic interest to the potential problems of the separation of ownership and control. Their argument has been challenged by the existence of firms with concentrated ownership around the world as well as in Thailand.

The high concentration of ownership in most listed firms in the Thai capital market distinguishes them from those in developed economies such as the US and the UK, which tend to have more dispersed ownership. Following the financial crisis, corporate governance has been reformed, but on the basis of recommendations developed for dispersed ownership models. Therefore, the three empirical studies in this thesis aim to provide more complete evidence of the impact of ownership structure<sup>1</sup> and other corporate governance mechanisms on three areas: firm performance, managers' accounting discretion and investor perceptions of the impact of governance mechanisms on firm performance. All the studies have also taken into considered the impact of the corporate governance reform.

### **7.2 Summary and Implications of the Study**

In response to the contradictory views of the World Bank and previous research in Thailand, the first empirical study, in Chapter 4, examines the impact of ownership structure on firm performance before and after the reforms.

The findings reveal that listed companies had high concentrations of ownership, even after the reforms. This may imply that most dominant/block shareholders, especially

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<sup>1</sup> The study has focused on concentration of ownership by six shareholders types (family, government, foreign company investors, domestic company investors, bank and non-bank financial institutional investors), the presence of a dominant shareholder, by its types and managerial ownership. Other corporate governance mechanisms include board structure, CEO characteristics and auditor reputation and expertise.

families, are likely to hold shares for long-term objectives, such as to control firms, and that the motivation of large and dominant shareholders to contribute to firms depends on their type and their level of ownership.

In contradiction to the World Bank's claim, this study has not found any evidence that high concentration of ownership and the existence of dominant shareholders, especially dominant family shareholders, have been detrimental to the performance of listed firms, except in the case of bank ownership. In particular, family block owners, tended to contribute to both accounting and market performance before and after the reforms, though this contribution did not significantly improve following the reforms. The evidence may imply that family shareholders restrain themselves from exploiting other shareholders. Their block shareholding may also motivate them to provide either better monitoring or efficient control in order to retain their family's reputation in society or to transfer business to their heirs.

High levels of shareholding motivated government shareholders to participate in the monitoring of firms, but only before the reforms, and this may imply that the weak governance system motivated them to play an active role in monitoring. The expectation of a better system after the reforms, therefore, could have reduced the motivation of government to be active in monitoring.

Additionally, high foreign company ownership motivated foreign companies to provide good monitoring, but only after the reforms. The Government's campaign for foreign investment may have allowed foreign companies to hold more shares in firms after the reforms, substantially increasing their incentive and ability to provide good monitoring.

However, there is evidence of exploitation by bank blockholders, in terms of market performance, before the reforms. Since most listed firms, especially family-owned firms, have very close relationships with banks, this might have reduced the motivation of the banks to monitor them and created negative investor perceptions of bank ownership. After the crisis, the BOT increased its monitoring over banks, possibly motivating them

to provide better monitoring as owners. As a result, the negative impact of bank ownership on firm performance disappeared after the reforms.

A significant positive impact of managerial ownership on firm performance is found when managerial ownership is defined based on the shares owned by all directors. No significant relationship is found when only the ownership of executive directors is included. The evidence suggests that levels of shares helped to increase the motivation of non-executive directors to supervise managers. However, it did not help to align the interests of executive directors with those of shareholders in the context of Thailand.

There is also evidence of the inefficiency of larger boards before and after the reforms, indicating some problems such as inefficient communication among the board members or a free rider problem. Board independence is associated with high accounting performance, but only before the reforms. This may imply that the requirement to introduce audit committees after the reforms merely increased size of boards but did not improve their quality in terms of their independence.

The findings also show lower accounting performance in firms with CEO founders before the reforms and with CEO descendants after the reforms. The evidence suggests that CEO founders might have exercised their control in the way that did not contribute to firms before the reforms. The lower performance of firms with CEO descendants after the reforms may imply a lack of competency among founder's descendants.

However, firms with CEO founders and those with CEO descendants appear to have had superior market performance before the reforms. Since the corporate governance mechanisms were claimed to be weak, these structure may have been viewed as substitute governance by investors.

Additionally, firms with CEO duality performed more poorly than those in which the two positions were separated did, but only after the reforms. Since the reforms especially emphasised the accountability of managers, they may have motivated CEO-chairmen to avoid market disciplines. In contrast, firms in which the CEO and chairman came from

the same group (father and son) did perform better in terms of accounting performance than those without this structure did, in both sub-periods. Efficient communication and family ties, such as trust or love among family members, may increase the ability of chairmen to monitor CEOs. Nevertheless, this structure might not have been favoured by investors, which would explain its negative impact on market performance before the reforms.

Chapter 5 investigates the impact of ownership structure and other corporate governance mechanisms on managers' opportunistic accounting discretion, as measured by discretionary accruals and discretionary revenues. The evidence suggests that the ability of blockholders to govern opportunistic discretions is subject to their type, the type of accounts (such as accruals or revenues) and the periods studied.

In particular, most types of shareholders (such as families, domestic companies, bank and non-bank financial institutions) have both incentive and ability to limit the use of accounting discretion over revenues. In fact, revenues accounts are less complex than accruals accounts are; they are substantial and often scrutinised by regulators and the public. Therefore, most shareholders have more ability and incentive to limit the use of discretion over revenues rather than over accruals.

Nevertheless, the evidence suggests that ownership by domestic companies, bank and non-bank financial institutions was associated with lower discretionary revenues, but only before the reforms, and that the reforms, which were expected to strengthen corporate governance, may have actually reduced the incentive of these blockholders to participate in the monitoring of financial reporting. In contrast, families appear to have limited the use of accounting discretion after the reforms.

Foreign company block ownership appears to have increased the incentive and ability of foreign company shareholders, as the largest shareholders, to limit discretionary accruals before the reform, suggesting that foreign company investors may be more familiar with accruals accounting and, in turn, more able to limit accounting discretion over accruals. However, firms with dominant foreign company shareholders appear to have used



discretionary revenues more than other firms did, suggesting that, when foreign companies gain efficient control, they are motivated to influence managers to prepare financial reports for opportunistic purposes, such as to boost sales in parent companies.

Managerial ownership appears to align the interests of all directors and executive directors, in turn reducing the use of accounting discretion over revenues. In respects to the periods before and after the reforms, there is evidence that higher levels of ownership by executive directors increased their motivation to use discretionary revenues before the reforms. However, higher levels of ownership appear to have limited discretionary revenues after the reforms, suggesting that the promotion accountability in the role of directors may have reduced their motivation to exercise accounting discretion.

Regarding other governance mechanisms, large boards tended to facilitate the use of discretionary accruals. Since accruals accounts are more complex and need more time to be verified by boards than revenues accounts do, managers may have more opportunities to exercise accounting discretion over accruals. Larger boards may have free-rider problems and inefficient communication and therefore be unable to efficiently limit accounting discretions. In contrast, the evidence suggests that the larger boards tended to have the motivation and ability to limit discretionary revenues, possibly because revenues accounts are less complex and are normally spotted by regulators.

The evidence also suggests that the reforms may have increased independent directors' incentive to facilitate the use of accruals discretions in order to avoid punishment by regulators or retain their reputation. However, it also shows that board experience helped to limit revenues discretions after the reforms, suggesting that directors with multiple directorships have more ability to limit accounting discretion and are not too busy to neglect their responsibilities.

Firms with CEO founders and CEO descendants tended to engage less in accounting discretion over accruals, especially after the reforms. Experience in business and better communication between family members and family reputation may have helped CEO

founders and their descendants to engage less in opportunistic accounting discretion, especially after the reforms.

Additionally, firms that were audited by BIG4 auditors appear to have had lower discretionary revenues before the reforms. The evidence also suggests that the experience of auditors (five years or more) increased their ability to detect the use of discretionary accruals and revenues before the reforms, highlighting the role of external auditors and the importance of auditor-partner years' experience in the detection of accounting discretion.

Chapter 6 investigates whether investors can correctly perceive the impact of ownership structure and other corporate governance mechanisms on firm performance. The evidence suggests that they tended to correctly perceive the impact of ownership concentration on firm performance. However, their misperception of some types of dominant shareholders, government and foreign companies in particular, led them to incorrectly estimate the impact of these shareholders on firm performance.

The evidence further suggests that a negative perception of government ownership, possibly derived from factors such as unstable politics and the fear of exploitation by the government, after the reforms led investors to underestimate the performance of firms that were owned and controlled by the government. In addition, a lack of knowledge about foreign company owners before the reforms may have led investors to underestimate the performance of firms that were owned and controlled by foreign companies.

Investors appear to have perceived the impact of board experience on firm performance incorrectly, and this might reflect that they had a negative perception of multiple directorships (for example, assuming that directors may be too busy) in turn overlooked the benefits of their experience after the reforms. Their negative perception of larger and more independent boards led investors to overestimate the negative impact of large boards on firm performance. However, the evidence suggests that the reforms helped to

improve this perception and, in turn, helped investors to perceive the impacts more accurately after the reforms.

### **7.3 Implications of the Study**

Overall, the findings of Chapters 4, 5 and 6 have several implications for policy makers and regulators for the development of appropriate governance regulations and policies.

Firstly, the evidence of Chapter 4 suggests that levels of ownership can help to motivate many types of blockholders to participate in monitoring and that firms do benefit especially from having dominant family shareholders. In addition, they also help to motivate most types of blockholders to limit the use of managers' accounting discretion over accruals and/or revenues (Chapter 5). The findings contradict the view that high concentrations of ownership, especially with the presence of dominant shareholders, causes harm to firms and suggests that these structures could be a substitute for other governance mechanisms which do not work well in the context of Thailand. However, the negative views/opinions about some types of shareholder (government and foreign companies) caused investors to misperceive the performance of firms owned or controlled by these shareholders (Chapter 6).

In fact, the corporate governance reforms have been mostly adopted from international corporate governance frameworks that were developed in contexts of dispersed ownership. Therefore, it is important for policy makers to be aware of this difference when considering governance policies. For example, the recently amended SEA of 1992 aims to provide room for minority shareholders to participate in companies' important matters. In particular, it allows a shareholder or shareholders with at least 5% of voting rights to submit a written proposal to a board of directors for an agenda of the shareholders' meeting. However, it could be difficult in practice for small shareholders to efficiently gather that number of shares in order to make a proposal, and it is difficult to win a vote in firms with highly concentrated ownership. It is also important for policy makers to ensure that possible costs incurred from enforcement policies do not exceed

benefits that firms may receive from their blockholders/dominant shareholders (Fama and Jensen, 1983).

Secondly, board structures including size and independence turned out to be less important for monitoring managers than they were intended to be, both in terms of enhancing firm performance and in limiting the use of managers' accounting discretion. The evidence suggests that the attempts of regulators to promote the role of independent directors have not been completely effective, at least during the period of the study.

The high concentration of ownership in most listed firms may have limited the role of boards of directors in supervising management because the owners and directors were the same people or came from the same groups. Furthermore, firms may have been forced to comply with rules and regulations without caring much for quality of governance that they implemented. For example, the requirement for three independent directors on audit committees might have forced firms to appoint new independent directors just to comply with the rule but without caring about their quality in terms of independence.

Therefore, policy makers and regulators could develop policies that emphasise "qualities" (such as independence) rather than "quantities" of directors on boards. For example, they could consider how "independence" should be defined and established. In fact, requirements on the "qualification" of directors have been included in the SEA (1992), however they need to be efficiently verified and regularly monitored by regulators in order to ensure that the qualifications are actually met.

The evidence also suggests that ownership could be a factor that motivates non-executive directors to supervise firms. Currently, independent directors<sup>2</sup> are allowed to hold shares not in excess of 1%. Therefore, policy makers could consider whether the threshold is sufficient to motivate these directors to perform their duty.

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<sup>2</sup> The Notification of the Securities and Exchange Commission No. TorChor. 28/2008: 8-9.

Thirdly, evidence from Chapter 5 suggests that the reforms have not made a significant contribution in terms of improving the impact of concentrated ownership on firm performance and limiting the use of managers' accounting discretion. In fact, they seem to have created some more leeway for CEO-Chairmen to engage in opportunistic activities. A separation of the two positions would be one possible solution (Jensen, 1993), although this must be considered very carefully because this might also create some costs to firms that would benefit from CEO duality.

It is worth quoting Jensen (2005:8) in the "Agency Costs of Overvalued Equity":

"I realize it is not fashionable to use such harsh language to describe what are almost universal practices. But when numbers are manipulated to tell the markets what they want to hear (or what managers want them to hear) rather than the true status of the firm – it is lying, and when real operating decisions that would maximize value are compromised to meet market expectations real long-term value is being destroyed."

Fourthly, evidence from Chapter 6 reveals that investor perceptions of boards of directors, in terms of their size and independence, improved after the reforms, even though the reforms might not have helped to improve firm performance significantly. The findings may indicate the success of the reforms in promoting the role of boards of directors, but they call for regulators to put more effort into making these governance structures work efficiently in practice and to aim beyond merely achieving recognition for a brand of "good" corporate governance systems.

However, the evidence suggests that, after the reforms, investors had negative perceptions of directors who held multiple directorships; they tended to believe that these directors were too busy and to overlook the benefits that firms could receive from them. Therefore, it is important for policy makers and regulators to monitor how these directors work for each board. For example, regulators could regularly monitor indicators such as the frequency of directors' attendance at board meetings and report this information to investors, helping to alter the perception of directors as being too busy.

Fifthly, the evidence suggests that long auditor-partner tenure may increase the ability of auditors to audit financial reporting, in turn reducing managers' opportunistic accounting discretion. Therefore, the requirement for auditor rotation every five years may create costs for firms.

Finally, this study proposes some recommendations to improve the efficiency of boards and management in the long run.

Firstly, policy makers should pay more attention to improve director and management awareness of ethical and moral practices and to improve communication between boards of directors, managers and other market participants.

Secondly, because an accurate perception of corporate governance structures is important to the efficiency of the capital market, it is necessary for policy makers to ensure that news and publications convey correct information to investors.

Thirdly, training on the ethical and moral dimensions of corporate governance structures and their benefits and costs should not be limited only to boards or managers but also provided to shareholders and investors in order to improve their understanding of how these structures work and their role as shareholders.

As Jensen (2005) argues, high expectations of investors might force managers and boards of directors to make the problem worse by lying to the public. Social motivations such as "a fear of losing face" could be also minimised by efficient communication between market participants. This would be difficult and would take time in order to be successful. However, improving the ethics, morality and communication skills of market participants should offer a more sustainable solution in a world of uncertainty that cannot be entirely covered by laws and regulations.

## **7.4 Limitations of the Study**

This thesis has been subject to some limitations. Firstly, all three studies were investigated based on firms that were listed in the SET. Generalisation to other firms or

markets is not straightforward, even though Thailand is, in some respects, a typical emerging economy with typical corporate governance structures and problems.

Secondly, the variables used in this study (such as discretionary accruals) may contain some errors from the models used to estimate them. For example, there has been an on-going debate about the inefficiency of the existing accruals-based models to classify discretionary and non-discretionary accruals. Nevertheless, this study implies that many models for comparison, including those based on discretionary revenues, as suggested by Stubben (2010), are more powerful than accruals-based models.

Limited ownership data for limited companies may have caused some errors in the identification of ultimate shareholders and the estimation of the ratio of cash flow rights to control rights. However, this study has added domestic companies as another category in order to control for this. Additionally, while this study has attempted to identify relationships among family shareholders, it is possible that some have been missed due to undisclosed relationships.

Thirdly, this study has assumed that the use of managers' accounting discretion is opportunistic, while the existing literature proposes that it is possible that managers will use it to convey useful information to the public.

Fourthly, although this study has used a fixed-effects model to control for unobserved firm heterogeneity, it is still possible that the model could have been compromised by omitted variables. Nevertheless, alternative methodologies such as OLS and random effects model have provided consistent results. The OLS and MT tests for investor perceptions of corporate governance structures may also have been compromised by omitted variables if any of them were not rationally priced by investors. This study has also been affected by the limited size of the samples, which caused the results from the OLS to contain some errors. Nevertheless, the results from both the OLS and MT have been consistent.

Finally, it is difficult to identify the sources of investor misperceptions correctly in the context of this study and therefore no attempt has been made to do so. This study has aimed to gain more understanding on whether investors can correctly perceive the impacts of reforms and whether the reforms have achieved their goals by improving investors' ability to estimate the impact of corporate government structures in general.

The results from this study must be therefore be interpreted with caution.

## **7.5 Future Research**

The results of this study suggest several potential avenues for future research. Firstly, small and medium-sized enterprises have become popular as alternative investments, and future research could investigate the impact of ownership structure and other corporate governance mechanisms on firm performance in the context of these businesses. It would also be interesting to investigate the impact of corporate governance on non-listed family firms. As the former Prime Minister Anand Panyarachun comments, good corporate governance should be implemented in both listed and non-listed companies (Panyarachun, 2013).

Secondly, future research may use new, alternative accruals-based approaches such as that of Dechow et al. (2012) with reversal factors to improve the quality of the discretionary accruals variable. This study also recommends the use of discretionary revenues-based approaches (Stubben, 2010) as a comparative measurement. In addition, it will be interesting for future research to further investigate and distinguish whether managers exercise accounting discretion for opportunistic or beneficial purposes (for examples, see Bowen et al., 2008; Core et al., 1999).

Thirdly, future research could employ both the OLS and the MT to investigate investor perceptions of governance structures in larger samples. In addition, future accounting research, on accruals anomalies in particular, could add governance variables as control variables in order to minimise the omitted variables problem, as highlighted by Kraft et al. (2007).



Fourthly, future research could investigate the sources of misperception in greater depth using qualitative analysis (such as surveys) as well as quantitative analysis. This would be important for the development of capital markets beyond Thailand.

Finally yet importantly, further work should be done to gain more understanding on ownership structure and corporate governance in other parts of the world where the agency problem exists.

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