

## ABSTRACT

Title of Dissertation:                   CONTROLLING SHAREHOLDERS, AUDIT  
COMMITTEE EFFECTIVENESS, AND  
EARNINGS QUALITY: THE CASE OF  
THAILAND

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This study examines the associations of controlling shareholders and audit committee effectiveness with earnings quality. A sample of non-financial Thai listed firms is used in the study because Thailand provides a useful setting for the study of ownership concentration. A unique data set on the voting rights of controlling shareholders and audit committee characteristics is used to test the hypotheses of whether controlling shareholders and audit committees with strong governance characteristics affect the quality of earnings. Earnings quality is measured using (1) Basu's (1997) asymmetric timeliness measure of accounting conservatism, and (2) absolute abnormal accruals estimated from the Dechow and Dichev (2002) and the Jones (1991) models and its variations. Audit committee effectiveness is measured using a composite index comprising four audit committee characteristics.

The empirical results show that firms with a controlling shareholder, on average, are associated with both lower accounting conservatism (lower earnings quality) and lower absolute abnormal accruals (higher earnings quality) than firms with no controlling shareholder. Further analysis shows that family- and the government-controlled firms and firms whose controlling shareholders have voting rights below 75%, in particular, are associated with lower accounting conservatism and absolute abnormal accruals.

Although the results imply both lower and higher earnings quality for firms with a controlling shareholder compared to firms with no controlling shareholder, the lower (higher) absolute abnormal accruals (earnings quality) simply reflects less conservative accounting practice by firms with a controlling shareholder. The results provide no evidence that audit committees with strong governance characteristics are associated with earnings quality.

CONTROLLING SHAREHOLDERS, AUDIT COMMITTEE EFFECTIVENESS,  
AND EARNINGS QUALITY: THE CASE OF THAILAND

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## Dedication

*To my beloved parents*

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## **Chapter 1: Introduction**

Ownership structure and the audit committee have been described as fundamental elements of corporate governance in prior literature. In this study, I focus on the influence of ownership structure and the audit committee on earnings quality. Central to the analysis of corporate governance is the concept of separation of ownership and control, in which owners of the firm are not in charged with using and controlling the firm's resources. Prior research on corporate governance, especially in the U.S. and the U.K., has focused on conflict of interests arisen from such separation of ownership and control between owners (principals) and managers (agents) (Jensen and Meckling, 1976). In many other economies, however, ownership is concentrated in the hands of one or a few owners who are also often active in management (La Porta et al., 1999). Concentrated ownership is common even in some developed economies such as in continental Europe (Faccio and Lang, 2002). In economies with concentrated ownership, instead of traditional principal-agent conflicts, conflict of interests between controlling shareholders and minority shareholders has been identified as a major concern of corporate governance. The prevalence of controlling shareholders with concentrated ownership and voting rights in Thailand (Claessens et al., 2000; Wiwattanakantang, 2001) provides a useful setting to study the relation between this type of agency conflicts and earnings quality.

This study is related to that of Fan and Wong (2002) which documents the relation between ownership concentration in East Asia and earnings quality. However, while Fan and Wong (2002) examine earnings informativeness, this study focuses on accounting conservatism and abnormal accruals as will be discussed in more detail below. Further,

Fan and Wong (2002) examine ownership for the period prior to the 1997 Asian financial crisis, whereas this study focuses on the period after the crisis. Several requirements on corporate governance introduced after such financial crisis might have influence on the dynamics between ownership structure and earnings quality.

The audit committee has been regarded as integral to quality financial reporting. In response to financial crises over the last decade, corporate governance reforms in many countries have empowered the role of the audit committee in the oversight of financial reporting (e.g., Sarbanes-Oxley Act, 2002; Smith, 2003). In Thailand, following the 1997 Asian financial crisis, the Stock Exchange of Thailand requires that all listed companies have an audit committee. Such requirement, however, was based on best practice guidelines from developed economies where ownership is dispersed. As such, the study of the association between the audit committee and earnings quality in Thailand provides an interesting insight into whether the role of the audit committee, an important governance mechanism, is different in a developing economy with different institutional environment from that of developed countries such as the U. S..

Prior studies have found that ownership structure can affect earnings quality. For example, Francis et al. (2005b), in the U.S. context, show that earnings are generally less informative for firms with dual-class ownership structure than for firms with single-class ownership structure. Fan and Wong (2002), in East Asian context, find that ownership concentration is associated with low earnings informativeness. Prior research has also examined the relation between the audit committee and earnings quality. Most studies examine certain audit committee characteristics, such as independence (Klein, 2002), size

(Anderson et al., 2004) and financial expertise (Bédard et al., 2004), whether these characteristics are associated with higher or lower earnings quality.

For this study, I consider three competing arguments based on prior research that may explain the relation between controlling shareholders and earnings quality. The first argument is related to the entrenchment effect of concentrated ownership (Morck et al., 1988). As controlling shareholders become entrenched due to their concentrated voting power, they have incentives to expropriate wealth from minority shareholders (Morck et al., 1988; Shleifer and Vishny, 1997), and conceal their private benefits by reporting low quality earnings. The second argument concerns the incentive alignment effect of ownership concentration (Jensen and Meckling, 1976). Because of their high ownership stakes in the firm, controlling shareholders have interests that are more aligned with those of minority shareholders, and thus are motivated to report high quality earnings. The third argument is related to the demand for earnings quality by users of financial statements (Ball et al., 2003). Controlling shareholders have no incentive to report high quality earnings because information asymmetry can be resolved through insider networks often prevalent in concentrated ownership environment. On the flip side, however, due to poor outside investor protection often the case in countries with concentrated ownership, outside investors may be motivated to demand high quality earnings reporting from the controlling shareholder before financing the firm.

The analysis in this study is based on an original data set on voting rights of controlling shareholders and audit committee characteristics of Thai listed firms collected for 2005. Following La Porta et al. (1999), the voting rights is computed using ultimate, rather than, immediate ownership of the firm. In this study, a controlling shareholder is a

shareholder whose combined direct and indirect voting rights in the firm exceed 25%. To test the hypothesis on the relation between the audit committee and earnings quality, a composite measure of audit committee effectiveness is constructed based on four audit committee characteristics. These characteristics include audit committee size, the ratio of audit committee members with accounting financial expertise, average tenure of audit committee members, and average number of outside audit committee positions held by audit committee members. Prior studies have shown that a larger audit committee or an audit committee containing more members with financial expertise, longer tenure, or more outside directorship plays a stronger governance role.

Earnings quality used in this study is based on measures of accounting conservatism and accruals-based earnings quality, specifically the absolute value of abnormal accruals. The Basu's (1997) asymmetric timeliness measure is used to proxy for accounting conservatism. Following prior studies, five models are used to determine abnormal accruals: (1) the Dechow and Dichev (2002) model, (2) the Jones (1991) model, (3) the Jones (1991) model as modified by Dechow et al. (1995) [modified-Jones (1991) model], (4) the Jones (1991) model adjusted for performance, and (5) the modified-Jones (1991) model adjusted for performance.

OLS regressions are performed to test several hypotheses on the relation between controlling shareholders and earnings quality set forth in the study. The full sample uses voting rights and audit committee data from 2005 and financial and stock data from 2005 to 2007. To alleviate endogeneity concern, OLS regressions are also run for a subsample using financial and stock data from 2006 to 2007 only.

I find a significant negative relation between firms with a controlling shareholder and accounting conservatism measure. Further analysis shows that such negative relation is largely driven by family and the government controlling shareholders. I also find negative relation between controlling shareholders with voting rights below 75% and the measure of accounting conservatism. I, however, do not find significant relation between an audit committee with strong governance characteristics and accounting conservatism. These results suggest that firms with a controlling shareholder on average are associated with lower earnings quality as measured by the level of accounting conservatism than firms with no controlling shareholder. The results also do not provide evidence that an effective audit committee play a significant role in improving earnings quality.

For the relation between controlling shareholders and accruals-based earnings quality, I find a negative significant relation between firms with a controlling shareholder and absolute abnormal accruals. The results are particularly strong for firms with family or the government as controlling shareholders and for firms in which voting rights of controlling shareholders are below 75%. An examination of signed abnormal accruals suggests that this negative relation is largely driven by negative or income-decreasing abnormal accruals. Firms with family controlling shareholders, in particular, are found to be less involved in income-decreasing activities. These results suggest firms with a controlling shareholder on average are associated with higher earnings quality in terms of magnitude of abnormal accruals than firms with no controlling shareholder.

With respect to the relation between audit committee effectiveness and accruals-based earnings quality, I do not find significant relation between audit committees with strong governance characteristics and absolute abnormal accruals. An examination of signed

abnormal accruals, however, shows some weak evidence that audit committees with strong governance quality are associated with higher income-increasing and -decreasing abnormal accruals. Taken as a whole, these results do not provide evidence that high quality audit committees a significant role in moderating earnings management, inconsistent with some prior research and recommendations by standard setters.

Overall, the results provide evidence that firms with a controlling shareholder report less conservative earnings than firms with no controlling shareholders. This could be the results of entrenchment or low demand for accounting conservatism. The results also seem to suggest that firms with a controlling shareholder report lower magnitude of abnormal accruals, in other words, higher accruals-based earnings quality than firms with no controlling shareholder. The results for low absolute abnormal accruals should be interpreted with caution, however, as they may not necessarily represent lower earnings management using accruals. Considering together, the results from accounting conservatism and abnormal accruals analyses suggest that the low absolute abnormal accruals simply reflect the less timeliness in loss recognition by firms with a controlling shareholder. In particular, the findings that the low absolute abnormal accruals are largely driven by the low negative or income-decreasing abnormal accruals strongly support the influence of less conservative accounting on the magnitude of abnormal accruals for firms with a controlling shareholder. As noted in Haw et al. (2004), the potential effect of less timely loss recognition on accruals may cast doubt on the use of absolute abnormal accruals alone as a measure of earnings management in some studies. A positive relation between absolute abnormal accruals and the variable of interest may not always be due to less earnings management.



This study contributes to the research on earnings quality and ownership structure, in particular concentrated ownership. More narrowly, the study also adds to the literature on family firms and earnings quality (Ali et al., 2007; Wang, 2006). Regarding research on accounting conservatism, this study provides evidence on whether accounting conservatism has potential use as a monitoring mechanism in the presence of agency conflicts between controlling shareholder and minority shareholders rather than between owners and management. As argued in Watts (2003a; 2003b), the asymmetric timeliness in recognizing losses relative to gains can be used to reduce managerial bias in earnings number. Further, this study contributes to the research on audit committee effectiveness, whether, in ownership concentrated environment, outside investors can benefit from high quality audit committees in improving earnings quality.

The remainder of this dissertation is organized as follows. Chapter 2 presents literature review and hypotheses development. Chapter 3 describes the measurement of variables, regression models employed to test the hypotheses, definition of variables, data and sample selection. Chapter 4 reports the descriptive statistics and the results of the empirical tests. Chapter 5 presents additional analyses, and Chapter 6 concludes.

## **Chapter 2: Literature Review and Hypotheses Development**

In this chapter, I review prior literature relevant to the study and develop hypotheses to be tested. For earnings quality, I focus on two categories: conservatism and accruals-based earnings quality. These two categories have been widely used in accounting research (see, e.g., Francis et al., 2006).

### **2.1. Concentrated ownership in Thailand and East Asia**

High ownership concentration is characteristic of most East Asian firms, including Thailand (Claessens et al., 2000). Claessens et al. (2000) finds that a significant proportion of shares are usually concentrated in the hands of one or a few shareholders, mostly families followed by the state. Of these family-controlled firms, about 60% have top management that is related to the controlling family. Firms are often affiliated with business groups, consisting of various public and private firms controlled by the same controlling shareholder (Claessens et al., 2000; Claessens and Fan, 2002). Claessens et al. (2000) also show that controlling shareholders often leverage their voting rights over their ownership stake (cash flow rights) through mechanisms such as dual-class share structure, pyramidal ownership structure, and cross-holdings. However, these mechanisms are the least common in Thailand. In particular, less than 13% and 1% of their sample of Thai firms employ pyramid and cross-holdings structure, respectively (Claessens et al., 2000).

Such concentrated ownership frequently results in agency conflicts between controlling shareholders and minority shareholders, unlike conflicts between owners and managers in developed economies (Shleifer and Vishny, 1997). By having substantial

control in the firm, controlling shareholders have the power to act in their own interests that may lead to the expropriation, or the transfer of the value, from the minority shareholders to controlling shareholders (Shleifer and Vishny, 1997). Expropriation can take many forms such as stealing the profits outright from the firm, transfer pricing, putting unqualified family members in management positions, excessive compensation, or diversion of investment opportunities from the firm (Johnson et al., 1998; La Porta et al., 2000). Johnson et al. (2000) and Mitton (2002) suggest that the expropriation of minority shareholders exists during the 1997 East Asian financial crisis.

Prior research suggests that ownership concentration could be the result of, or substitute for, weak legal systems that do not provide sufficient protection of the rights of outside investors (La Porta et al., 1998; La Porta et al., 2000; Shleifer and Vishny, 1997). For example, some family controlling shareholders may want to maintain concentrated ownership of the firm because the family's reputation could help attract external financing when investor protection is poor (La Porta et al., 2000). Some other firms may have to remain family-controlled because of the difficulty in attracting outside funds (Shleifer and Vishny, 1997). Controlling shareholders can also use high ownership stakes as a credible signal that they commit to act in the interests of the firm and the minority shareholders (Gomes, 2000). Consistent with this, La Porta et al. (2002) find that firm value is higher in countries with better investor protection and in firms with higher cash-flow ownership by the controlling shareholder.

## **2.2. The role of accounting conservatism**

Conservatism is a fundamental concept in financial accounting. Basu (1997) describes accounting conservatism as requiring more thorough verification in recognizing

good news as gains than bad news as losses. Thus, under accounting conservatism, losses are incorporated into accounting earnings in a more timely manner. Watts (2003a) argues that accounting conservatism is an efficient financial reporting mechanism that benefits users of the firm's financial statements. The requirement for asymmetric timely loss recognition can be used as a monitoring mechanism to constrain management's opportunistic behavior in reporting accounting measures used in a contract (Watts, 2003a; 2003b).

### **2.3 The entrenchment effect and earnings quality**

With effective control of the firm, the controlling shareholder can become entrenched and expropriate from minority interests in the forms described above. The entrenchment problem can be exacerbated if the controlling shareholder employs such mechanisms as pyramid or cross-holding structure to increase his/her voting rights above cash flow rights. With high voting power to control the firm's activities, the controlling shareholder can also influence the firm's financial reporting and accounting choices. Fan and Wong (2002) find that the informativeness of accounting earnings is lower for East Asian firms whose controlling shareholders have higher voting rights and higher divergence between voting rights and cash flow rights.

Leuz et al. (2003) argue that conflict of interest between controlling shareholders and outside investors creates incentives for controlling shareholders to mask true firm performance through earnings management in order to conceal private control benefits. Also, Leuz et al. (2003) show that earnings management is more pervasive in countries where outside investor protection is weak. Haw et al. (2004) find an association between earnings management and the divergence between voting rights and cash flow rights of

controlling shareholders, while provide evidence that strong legal systems and infrastructure, not directly focus on outsider protection, mitigate such earnings management.

Based on the entrenchment effect, I expect controlling shareholders to prefer low earning quality to conceal their private control benefits and evidence of expropriation of minority shareholders. In particular I expect controlling shareholders to prefer less accounting conservatism as it provides timely information on losses, and prefer low accruals-based earnings quality to mask true performance.

#### **2.4 The incentive alignment effect and earnings quality**

Increased cash flow ownership in the firm by controlling shareholders can reduce incentives for expropriation (Jensen and Meckling, 1976). Controlling shareholders gain both more voting rights and cash-flow rights in the firm from increased ownership stake. Once controlling shareholders have acquired sufficient voting rights to gain effective control of the firm, more voting rights does not further entrench the controlling shareholders (Fan and Wong, 2002). Higher cash-flow rights, however, mean that it will cost the controlling shareholders more to expropriate from minority or outside investors (Fan and Wong, 2002). Claessens et al. (2002) find that firm value increases with higher cash-flow rights of the largest controlling shareholders.

For controlling shareholders with high ownership stake, the incentive alignment effect could influence them to choose accounting practices that align with the interest of the minority shareholders, that is, reporting high quality of earnings.

## **2.5 The demand for earnings quality**

Ball et al. (2003) argue that financial reporting quality is determined by market demands specific to each country. They examine accounting conservatism during 1984-1996 in four East Asian countries—Hong Kong, Malaysia, Singapore, and Thailand. Ball et al. (2003) find no significant asymmetric timeliness of loss recognition in their sample. They argue that the lack of demand for accounting conservatism in these four countries is due to the prevalence of family controlled firms and insider networks, and as such information asymmetry is resolved through insider communication rather than through financial reporting and public disclosure.

Khanna and Rivkin (2001) support the argument by Ball et al. (2003) on the prominent role played by business groups in some countries including Thailand. Khanna and Rivkin (2001) indicate that firms within groups or networks typically may raise capital jointly, exchange resources internally, exchange information at group meetings, and buy and sell goods among themselves. This practice reduces the reliance on public disclosure, and thus the demand for earnings and financial reporting quality.

Along the same line, Chen et al. (2008) find that, compared to nonfamily firms, family firms provide less voluntary disclosure. Chen et al. (2008) argue that family owners are usually involved in firm management, and hence can better monitor management and have less information asymmetry between owners and management. Such direct monitoring is substituted for corporate disclosure in mitigating agency problems (Chen et al., 2008).

The above discussion suggests that the affiliation with business groups of firms with a controlling shareholder, and hence less diverse shareholder base, could lead to a low

demand for quality public disclosure from those firms because information asymmetry can be resolved through insider network.

On the flip side, however, due to poor outside investor protection often the case in countries with concentrated ownership, outside investors may be motivated to demand high quality earnings reporting from the controlling shareholder to protect their interests in the firm (Wang, 2006).

The formal hypotheses are specified in the next section.

## **2.6 Hypotheses to test the relation between controlling shareholders and earnings quality**

Based on the discussion in the previous section on the entrenchment effect, the incentive alignment effect, and the demand for earnings quality, I test the following hypothesis, stated in null form:

H1: There is no difference in the association with earnings quality between firms with a controlling shareholder and firms with no controlling shareholder.

To gain further insight, I also test the following four hypotheses, stated in null form, for different types of controlling shareholders:

H2a: There is no difference in the association with earnings quality between firms with a family controlling shareholder and firms with no controlling shareholder.

H2b: There is no difference in the association with earnings quality between firms with a widely held corporation or financial institution as a controlling shareholder and firms with no controlling shareholder.

H2c: There is no difference in the association with earnings quality between firms with the government as a controlling shareholder and firms with no controlling shareholder.

H2d: There is no difference in the association with earnings quality between firms with a foreign controlling shareholder and firms with no controlling shareholder.

Motivated by Morck et al. (1988) who suggest that managers with different levels of ownership may have different incentives, I also test the hypotheses for different levels of voting rights of controlling shareholders. Similar to Wiwattanakantang (2001), the different levels of voting rights used are voting rights between 25%-50%, 50%-75%, and at least 75%. The choice for each level is not completely arbitrary. As will be discussed later, 25% of voting rights would allow a shareholder sufficient control of the firm.

Voting rights of more than 50% make up the majority. Voting rights of at least 75% give a shareholder a supermajority for certain critical decisions in the firm, according to the Thai public company law. In particular, I test the following hypotheses, stated in null form:

H3a: There is no difference in the association with earnings quality between firms whose controlling shareholder has voting rights between 25%-50% and firms with no controlling shareholder.

H3b: There is no difference in the association with earnings quality between firms whose controlling shareholder has voting rights between 50%-75% and firms with no controlling shareholder.



H3c: There is no difference in the association with earnings quality between firms whose controlling shareholder has voting rights at least 75% and firms with no controlling shareholder.

## **2.6 Audit committee effectiveness and earnings quality**

The corporate governance role of the audit committee has been strengthened throughout the past decades (see, e.g., Blue Ribbon Committee, 1999; Cadbury Committee, 1992; Sarbanes-Oxley Act, 2002; Treadway Commission, 1987). In Thailand, the Stock Exchange of Thailand (SET) required that effective from 1999 all listed companies have an audit committee. Prior research suggests that one of the key roles of the audit committee is the oversight of the integrity of financial statements and reporting process (DeZoort et al., 2002). This role is essentially the main reason for the audit committee's existence (PricewaterhouseCoopers, 2005). Other responsibilities of the audit committee include the oversight of internal controls and external auditor's activities (DeZoort et al., 2002).

Several characteristics of an effective audit committee have been examined in prior literature. In this study, I focus on four characteristics of the audit committee: size, tenure, number outside audit committee positions held, and financial expertise.<sup>1</sup> I review the literature relevant to each of the characteristics next.

### *Audit committee size*

An audit committee requires significant resources, including the adequate number of directors, to meet its responsibilities and expectations. Larger audit committees can

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<sup>1</sup> Audit committee independence is not included because the SET requires that each audit committee member of listed companies be independent. In general, the SET independence requirements are in line with the requirements under the U.S. Sarbanes-Oxley Act of 2002.

provide an increased diversity of experience (PricewaterhouseCoopers, 2005). Also, an audit committee with more members, on average, has more resources and time to oversee financial reporting process than an audit committee with fewer members (Anderson et al., 2004).

Archambeault and DeZoort (2001) and Vafeas and Waagelein (2007) report that larger audit committees provide more support for the external auditor. Specifically, Archambeault and DeZoort (2001) find that firms that made suspicious auditor switches had smaller audit committees than nonsuspicious switching firms. Vafeas and Waagelein (2007) note that larger audit committees are associated with higher audit fees. Chen and Zhou (2007) suggest that firms with larger audit committee demand an external auditor with better reputation. In particular, Chen and Zhou (2007) find that firms with larger audit committee dismiss Arthur Andersen sooner after the Andersen-Enron situation, and are more likely to choose a Big 4 successor auditor.

Anderson et al. (2004) argue that creditors have high concerns about the integrity of a company's financial reports because they rely on accounting-based numbers in lending agreements. Anderson et al. (2004) find that larger audit committees are associated with a lower cost of debt financing, suggesting that larger audit committees provide better monitoring of financial reporting process than their smaller counterparts.

#### *Audit committee tenure*

Prior studies suggest that a longer tenure on the board provides a director with more important knowledge about the firm and its operating environment, and thus allows the director to become more confident and effective in his/her roles and responsibilities (Koznik, 1990; Singh and Harianto, 1989). New board members, on the other hand,

require time to become familiar with firm-specific operations before they could make meaningful contributions (Singh and Harianto, 1989).

The SET does not mandate the number of years a person can serve on the firm's audit committee. In its *Best Practice Guidelines for Audit Committee* (SET, 1999), the SET recommends a period of 2-5 years for each term of an audit committee member, but the term can be renewed upon the approval of the Board of Directors or shareholders' meeting.

Consistent with previous research, Beasley (1996) finds that as the average tenure of outside directors on the board increases, the likelihood of financial statement fraud decreases. Yang and Krishnan (2005), finds that the average tenure of audit committee members is negatively related to quarterly earnings management.

#### *Number of outside audit committee positions held*

Several studies have examined multiple directorships held by a director in other firms. Fama (1980) and Fama and Jensen (1983) argue that outside directors are controlled by the market for corporate directors, which can reward them with additional directorships or punish them based on their performance. Directors have incentives to provide good monitoring of the firm to signal to the market that they are competent (Fama and Jensen, 1983). Multiple other directorships held by an audit committee member, thus, suggest that such audit committee member has successfully developed reputation in the market as an oversight expert (Fama and Jensen, 1983). Bédard et al. (2004) also suggest that holding more board positions allows an audit committee to gain experience and keep abreast of governance best practices.

Consistent with the above arguments, Srinivasan (2005) finds that audit committee members of firms that overstated earnings were likely to lose more directorship positions held in other firms than did their non-audit committee counterparts. Moreover, the higher the severity of earnings overstatement, the greater the likelihood that audit committee members departed the firm's board and lost more other directorships (Srinivasan, 2005). Similarly, Fich and Shivdasani (2007) finds that outside directors experience a significant decline in the number of directorships held in other firms following a financial fraud lawsuit. The more severe the allegations of fraud and the greater the responsibilities of the outside directors for monitoring fraud, the greater is the decline in other board seats held (Fich and Shivdasani, 2007).

Further, Bédard et al. (2004) find that the average number of other directorships held by independent audit committee members is negatively associated with aggressive earnings management. Carcello and Neal (2003) find that firms whose audit committees have higher average number of other directorships held by independent audit committee members are less likely to dismiss their external auditors following going-concern opinions.

#### *Audit committee financial expertise*

Because the key responsibility of the audit committee is to oversee the financial reporting process and controls, financial expertise is essential to the audit committee's effectiveness (PricewaterhouseCoopers, 2005; Blue Ribbon Committee, 1999). Lack of knowledge or understanding of complex technical financial problems may lead to ineffective judgments and performance of the audit committee (DeZoort, 1998; Kalbers and Fogarty, 1993).

Numerous studies have examined the relation between financial expertise of the audit committee and the quality of financial reporting. Bédard et al. (2004) find that financial expertise of the audit committee is negatively associated with aggressive earnings management. Abbott et al. (2004) find that an audit committee containing at least one member with financial expertise is negatively associated with occurrence of restatement of financial reports. Farber (2005) shows that firms identified by the SEC as fraudulently manipulating financial statements have fewer financial experts on the audit committee compared to non-fraud firms. McDaniel et al. (2002), in an experimental study, suggest that including members with financial expertise on audit committees is likely to bring structure and consistency to the committee's discussions and evaluations of overall financial reporting quality. Financial expert members are also likely to help to direct the focus of the audit committee towards issues critical to the quality of financial reporting (McDaniel et al., 2002).

On internal controls, Krishnan (2005), studied the period before the enactment of the Sarbanes-Oxley Act, indicates that audit committees with more financial expertise are significantly less likely to be associated with the incidence of internal control problems. Along the same line, Zhang et al. (2007) find that, post Sarbanes-Oxley period, audit committees with more financial expertise are less likely to be associated with internal control weaknesses. DeZoort and Salterio (2001) noted that audit committee members with higher audit knowledge were more likely to support an external auditor in the dispute with management over an accounting policy choice.

Using a composite variable as a measure of audit committee effectiveness, Abbott et al. (2007) define an effective audit committee as a committee that is comprised entirely

of independent directors, includes at least one member with financial expertise, and meets at least four times annually. They find that firms with an effective audit committee were less likely to outsource routine internal audit activities to their current external auditor. Abbott et al. (2007) argue that outsourcing routine internal audit activities to companies' current external auditor could impair internal auditor independence. Lastly, DeFond et al. (2005) find that only accounting-related financial expertise, not broader-defined financial expertise (e.g., expertise gain from experience as a CEO), is likely to improve the quality of the audit committee.

## **2.8 Hypothesis to test the relation between audit committee effectiveness and earnings quality**

Overall, prior research suggests that an effective audit committee with strong governance characteristics plays an important role in ensuring the integrity of the firm's financial statements and internal controls. Thus, based on previous research, it should be expected that an effective audit committee with governance characteristics would promote accounting conservatism within the firm and moderate the use of accruals to manipulate earnings. However, most previous research discussed above is based on samples of firms in the U.S. with largely dispersed ownership structures and relatively well established audit committees as an important element of corporate governance mechanisms. It is unclear a priori how an audit committee would function as a corporate governance mechanism in concentrated ownership environments. Therefore, I state my hypothesis as follows:

H4: There is no difference in the association with earnings quality between an audit committee with stronger and weaker governance characteristics.

## Chapter 3: Research Design

This Chapter discusses the research method used to test the hypotheses developed in Chapter 2. First, it describes the measurement of proxies for earnings quality, controlling shareholders, and audit committee effectiveness. It then explains the regression models and definition of variables employed to test the hypotheses. Finally, it details the data and sample selection process.

### 3.1 Measures of earnings quality

This section describes earnings quality measures used in the study. As mentioned earlier, I focus on two categories of earnings quality: conservatism and accruals-based earnings quality. These two categories have been widely used in prior accounting research.

#### 3.1.1 Measure of accounting conservatism

Following Basu (1997), I define accounting conservatism as the asymmetric timeliness of earnings in recognizing good news and bad news. In particular, I measure accounting conservatism using the following reverse regression:

$$NI = \beta_0 + \beta_1 NRD + \beta_2 R + \beta_3 R * NRD + \varepsilon \quad (1)$$

where  $NI$  is net income before extraordinary items divided by total assets at the beginning of the fiscal year;  $R$  is the buy-and-hold return over the fiscal year;  $NRD$  equals 1 if  $R$  is negative, 0 otherwise. The coefficient  $\beta_2$  captures the timeliness of earnings in reflecting positive returns (a proxy for good news). The coefficient  $\beta_3$  captures the incremental timeliness of earnings in incorporating negative returns (a proxy for bad news). As in

many previous studies on conservatism, I use the coefficient  $\beta_3$  to measure the degree of accounting conservatism in this study.

### **3.1.2 Measures of accruals-based earnings quality**

Various accruals-based measures have been used in prior literature to proxy for earnings quality. In this study, I employ five different measures: one based on the accruals quality measure proposed in Dechow and Dichev (2002) and four based on measures of discretionary accruals.

The first measure is based on the Dechow and Dichev (2002) accruals quality model which has been widely adopted in the literature. The model defines accruals quality as the extent to which working capital accruals map into past, current, and future cash flow from operations. Larger magnitude of the accruals estimation errors implies lower quality of accruals and earnings (Dechow and Dichev, 2002). McNichols (2002), however, notes that the model's focus on working capital accruals limits its applicability to firms with operations that are shorter-term in nature. Hence, I also examine additional proxies of earnings quality based on estimates of discretionary accruals.

The four additional measures of earnings quality are based on discretionary accruals estimated from the Jones (1991) model and its variations. As with the Dechow and Dichev (2002) model, the Jones (1991) model and its variations have been widely used in prior literature to study earnings quality, specifically, earnings management. These discretionary accruals models focus on separating total accruals into discretionary and nondiscretionary components. A set of accounting fundamentals is first used to estimate the model parameters. The predicted value from the model is then interpreted as nondiscretionary accruals arising from normal operations and the residual as



discretionary. This discretionary portion is used as a measure of earnings management. I discuss the specific discretionary accruals model used for each of the four earning quality proxies next.

The second measure of accruals-based earnings quality is derived from the original Jones (1991) model. The model relies on the change in revenues and gross property, plant and equipment to partition total accruals into discretionary and nondiscretionary portion, thus implicitly assuming that revenues are not subject to manipulations. The third measure is based on the Jones (1991) model as modified by Dechow et al. (1995). Using a time-series setting, Dechow et al. (1995) propose that the change in revenues is adjusted for the change in accounts receivable during the event period in which nondiscretionary accruals are predicted, while the original Jones model is maintained in estimating the model parameters during the estimation period. By doing so, the model assumes that the entire changes in credit sales are managed during the event period, but unmanaged during the estimation period.

The fourth and fifth measures are based the Jones (1991) and modified-Jones models used for the first and second measures, respectively, augmented to include return on assets, as suggested by Kothari et al. (2005). The motivation for the inclusion of return on assets is to control for the effect of firm performance on estimated discretionary accruals (Kothari et al., 2005). Also, for the fifth measure, following Francis et al. (2005a) and Kothari et al. (2005), the change in revenues is adjusted for the change in accounts receivable in both the estimations of the model parameters and nondiscretionary accruals. This approach, in effect, assumes that all changes in credit sales represent earnings management. As noted in Francis et al. (2005a), by not including the change in

accounts receivable in the estimation of nondiscretionary accruals, the Dechow et al.'s (1995) modification of the Jones (1991) model can overstate the estimated discretionary accruals for growing firms.

To arrive at each measure of accruals-based earnings quality, I first estimate the above five models cross-sectionally for each industry group (sector)<sup>2</sup> for each year in the sample. If a sector has less than 10 observations in any given year, I estimate the model at the SET industry level. (Table 2 shows the number of observations in each of the SET industry and sector from 2005-2007.) The parameter estimates are then used to compute firm-specific residual for each firm each year. The absolute values of the residuals from the estimation of the five models discussed above are the accruals-based measures of earnings quality used in this study. The larger the absolute value, the lower is earnings quality. A detailed description of how I arrive at each measure is provided below.

Note that there are two approaches used in the literature to implement the Dechow and Dichev (2002) and the discretionary accruals models: time-series and cross-sectional. Dechow and Dichev (2002), Jones (1991), and Dechow et al. (1995) originally use a time-series approach in their studies. However, many subsequent studies apply the models in a cross-sectional setting (e.g., Aboody et al., 2005; Bharath et al., 2008; DeFond and Jiambalvo, 1994; Francis et al., 2005a; Kothari et al., 2005; Prawitt et al., 2009); Raman and Shahrur, 2008). The cross-sectional setting is more appropriate to this study because of less data requirement. Also, a time-series approach introduce survivorship bias in the sample (Bharath et al., 2008; Ecker et al., 2006)

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<sup>2</sup> The industry groups used in this study are based on the classification by the Stock Exchange of Thailand (SET). The SET classifies listed firms into industries and sectors, approximately equivalent to one and two digit Standard Industrial Classification (SIC) industry groups, respectively (see Table 2).

Further, Dechow and Dichev (2002) use the standard deviation of the residuals as a measure of accrual quality. They, however, note that using absolute value of the residual at a firm-year level provides qualitatively similar results.

### 3.1.2.1 Dechow and Dichev (2002) model

To estimate the Dechow and Dichev (2002) model (hereafter DD), I first calculate total current accruals as:

$$TCA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STDEBT_{it}$$

where  $TCA_{it}$  is firm  $i$ 's total current accruals in year  $t$ ;  $\bullet$   $CA_{it}$  is firm  $i$ 's change in current assets between year  $t-1$  and year  $t$ ;  $\bullet$   $CL_{it}$  is firm  $i$ 's change in current liabilities between year  $t-1$  year  $t$ ;  $\bullet$   $CASH_{it}$  is firm  $i$ 's change in cash between year  $t-1$  year  $t$ ; and  $\bullet$   $STDEBT_{it}$  is firm  $i$ 's change in short-term debt between year  $t-1$  year  $t$ .

I then estimate the following cross-sectional regression of DD for each SET sector for each year:

$$\frac{TCA_{it}}{AVGA_{it}} = \phi_{0t} + \phi_{1t} \frac{CFO_{i,t-1}}{AVGA_{it}} + \phi_{2t} \frac{CFO_{it}}{AVGA_{it}} + \phi \frac{CFO_{i,t+1}}{AVGA_{it}} + \mu_{it} \quad (2)$$

where  $CFO_{it}$  is firm  $i$ 's total cash flow from operations in year  $t$  taken from the statement of cash flows;  $AVGA_{it}$  is firm  $i$ 's average total assets over year  $t-1$  year  $t$ .

The coefficients estimated from equation (2) are used to calculate firm-specific residual or abnormal accruals from the regression as follows:

$$AA\_DD_{it} = \frac{TCA_{it}}{AVGA_{it}} - \hat{\phi}_{0t} + \hat{\phi}_{1t} \frac{CFO_{i,t-1}}{AVGA_{it}} + \hat{\phi}_{2t} \frac{CFO_{it}}{AVGA_{it}} + \hat{\phi} \frac{CFO_{i,t+1}}{AVGA_{it}}$$

where  $AA\_DD_{it}$  is firm  $i$ 's residual or abnormal accruals from DD in year  $t$ . The first measure of accruals-based earnings quality ( $ABSAA\_DD_{it}$ ) is the absolute value the firm's residual or abnormal accruals from DD ( $|AA\_DD_{it}|$ ).

### 3.1.2.2 Jones (1991) model

The second accruals-based measure of earnings quality is based on the Jones (1991) model (hereafter J1). I first define total accruals as:

$$TA_{it} = BNI_{it} - CFO_{it}$$

where  $TA_{it}$  is firm  $i$ 's total accruals in year  $t$ ;  $BNI_{it}$  is firm  $i$ 's bottom line net income in year  $t$ ; and  $CFO_{it}$  is firm  $i$ 's total cash flow from operations in year  $t$  taken from the statement of cash flows.<sup>3</sup>

To estimate J1, I run the following cross-sectional regression for each SET sector for each year:

$$\frac{TA_{it}}{A_{i,t-1}} = \alpha_{1t} \frac{1}{A_{i,t-1}} + \alpha_{2t} \frac{\Delta REV_{it}}{A_{i,t-1}} + \alpha_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \varepsilon_{it} \quad (3)$$

where  $A_{i,t-1}$  is firm  $i$ 's total assets at the beginning of year  $t$ ;  $\Delta REV_{it}$  is firm  $i$ 's change in revenues between year  $t-1$  and year  $t$ ; and  $PPE_{it}$  is firm  $i$ 's net value of property, plant, and equipment<sup>4</sup> in year  $t$ .

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<sup>3</sup> Some prior literature calculates total accruals by subtracting cash flow from *continuing* operations from net income before extraordinary items and discontinued operations. In such a case, the cash flow from continuing operations is derived from subtracting the cash portion of discontinued operations and extraordinary items from total cash flows from operations. Since data for the cash portion of discontinued operations and extraordinary items is not available in Datastream for my sample, I calculate total accruals by subtracting total cash flow from operations from bottom line net income instead of from net income before extraordinary items and discontinued operations (see, e.g., Hribar and Collins, 2002).]

<sup>4</sup> As in Kothari et al. (2005), I use net value of property, plant and equipment in estimating the Jones model. Other studies that use net property, plant and equipment include Guidry et al. (1999) and Myers et al. (2003). I acknowledge that Jones (1991) and most studies use gross value of property, plant and equipment. However, data for gross property, plant and equipment is not available in Datastream for the sample used in this study. Data for depreciation or accumulated depreciation is also not available to allow for reconciliation between the net and gross values.

The coefficients estimated in equation (3) are then used to estimate firm-specific nondiscretionary or normal accruals:

$$NA\_JI_{it} = \hat{\alpha}_{1t} \frac{1}{A_{i,t-1}} + \hat{\alpha}_{2t} \frac{\Delta REV_{it}}{A_{i,t-1}} + \hat{\alpha}_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \varepsilon_{it}$$

where  $NA\_JI_{it}$  is firm  $i$ 's nondiscretionary or normal accruals from J1 in year  $t$ .

In turn, discretionary or abnormal accruals are calculated as:

$$AA\_JI_{it} = \frac{TA_{it}}{A_{t-1}} - NA\_JI_{it}$$

where  $AA\_JI_{it}$  is firm  $i$ 's discretionary or abnormal accruals from J1 in year  $t$ . The second measure of accruals-based earnings quality ( $ABSAA\_JI_{it}$ ) is the absolute value of discretionary or abnormal accruals from J1 ( $|AA\_JI_{it}|$ ).

### 3.1.2.3 Modified-Jones (1991) model

The third accruals-based measure of earnings quality is based on the Jones (1991) model as modified by Dechow et al. (1995) (hereafter MJ1). To estimate firm-specific nondiscretionary or normal accruals, the parameter estimates from the cross-sectional regression of J1 in equation (3) performed for each SET sector for each year are used as shown below:

$$NA\_MJI_{it} = \hat{\alpha}_{1t} \frac{1}{A_{i,t-1}} + \hat{\alpha}_{2t} \frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{i,t-1}} + \hat{\alpha}_{3t} \frac{PPE_{it}}{A_{i,t-1}}$$

where  $NA\_MJI_{it}$  is firm  $i$ 's nondiscretionary or normal accruals from MJ1 in year  $t$ ;  $\bullet AR_{it}$

is firm  $i$ 's change in accounts receivable between year  $t-1$  and year  $t$ .<sup>5</sup>

The firm-specific discretionary or abnormal accruals are then calculated as:

$$AA\_MJI_{it} = \frac{TA_{it}}{A_{i,t-1}} - NA\_MJI_{it}$$

where  $AA\_MJI_{it}$  is firm  $i$ 's discretionary or abnormal accruals from MJ1 in year  $t$ . The third measure of accruals-based earnings quality ( $ABSAA\_MJI_{it}$ ) is the absolute value of discretionary or abnormal accruals from MJ1 ( $|AA\_MJI_{it}|$ ).

### 3.1.2.4 Performance-adjusted Jones (1991) model

The fourth accruals-based measure of earnings quality is based on the performance-adjusted Jones (1991) model (hereafter J2), in which return on assets is added as an independent variable to J1 as shown in equation (4). The cross-sectional regression of equation (4) is performed for each SET sector for each year:

$$\frac{TA_{it}}{A_{i,t-1}} = \theta_{1t} \frac{1}{A_{i,t-1}} + \theta_{2t} \frac{\Delta REV_{it}}{A_{i,t-1}} + \theta_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \theta_{4t} ROA_{it} + v_{it} \quad (4)$$

where  $ROA_{it}$  is firm  $i$ 's return on assets in year  $t$ , measured as the ratio of year  $t$  net income before extraordinary items to year  $t-1$  total assets.

The coefficient estimates from the regression, in turn, are used to calculate firm-specific discretionary or abnormal accruals as:

$$AA\_J2_{it} = \frac{TA_{it}}{A_{i,t-1}} - \hat{\theta}_{1t} \frac{1}{A_{i,t-1}} + \hat{\theta}_{2t} \frac{\Delta REV_{it}}{A_{i,t-1}} + \hat{\theta}_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \hat{\theta}_{4t} ROA_{it}$$

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<sup>5</sup> As discussed above and following the methodology used in prior literature, the changes in accounts receivable are deducted from revenues only in the calculation of nondiscretionary accruals, to capture any possibility of accounting discretion over the recognition of credit sales. The model parameters are estimated for each industry using the Jones model, where the changes in accounts receivable are included in revenues.

where  $AA\_J2_{it}$  is firm  $i$ 's discretionary or abnormal accruals from J2 in year  $t$ . The fourth measure of accruals-based earnings quality ( $ABSAA\_J2_{it}$ ) is the absolute value of discretionary or abnormal accruals from J2 ( $|AA\_J2_{it}|$ ).

### 3.1.2.5 Performance-adjusted modified-Jones model

The fifth accruals-based measure of earnings quality is based on the performance-adjusted modified Jones (1991) model (hereafter MJ2), in which MJ1 is augmented to include  $ROA$  as an independent variable as shown in equation (5). The cross-sectional regression of equation (5) is run for each SET sector for each year:

$$\frac{TA_{it}}{A_{i,t-1}} = \lambda_{1t} \frac{1}{A_{i,t-1}} + \lambda_{2t} \frac{\Delta REV_{it} - \Delta AR_{it}}{A_{i,t-1}} + \lambda_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \lambda_{4t} ROA_{it} + \eta_{it} \quad (5)$$

The coefficient estimates from the regression are then used to calculate firm-specific discretionary or abnormal accruals as:

$$AA\_MJ2_{it} = \frac{TA_{it}}{A_{i,t-1}} - \hat{\lambda}_{1t} \frac{1}{A_{i,t-1}} + \hat{\lambda}_{2t} \frac{\Delta REV_{it} - \Delta AR_{it}}{A_{i,t-1}} + \hat{\lambda}_{3t} \frac{PPE_{it}}{A_{i,t-1}} + \hat{\lambda}_{4t} ROA_{it}$$

where  $AA\_MJ2_{it}$  is firm  $i$ 's discretionary or abnormal accruals from MJ2 in year  $t$ .<sup>6</sup> The fifth measure of accruals-based earnings quality ( $ABSAA\_MJ2_{it}$ ) is the absolute value of discretionary or abnormal accruals from MJ2 ( $|AA\_MJ2_{it}|$ ).

## 3.2 Definition of a controlling shareholder

In this study, a controlling shareholder is a shareholder whose combined direct and indirect voting rights in the firm exceed 25%. According to La Porta et al. (1999), the level of voting rights should be sufficient to allow a controlling shareholder to effectively

<sup>6</sup> As discussed previously, in this model, the changes in accounts receivable are included in revenues in both the estimation of the model parameters and nondiscretionary accruals, assuming that all changes in accounts receivable result from earnings management. This approach is employed by, for example, Kothari et al. (2005), Prawitt et al. (2009), and Raman and Shahrur (2008).

control the firm. I employ 25% of voting rights as a cutoff level for the following reasons. First, the Stock Exchange of Thailand (SET) classifies a shareholder with direct or indirect voting rights in the firm greater than 25% as a controlling shareholder (SET, 2009). Second, a shareholder with greater than 25% of voting rights has absolute power to carry out a number of important activities in the firm that requires less than 25% of the votes under the Thai public company law, *Public Limited Companies Act B.E. 2535* (the Act). These activities include demanding the board of directors to call an extraordinary meeting of shareholders at any time and submitting a request to the Minister of Commerce for an inspector to examine the firm's operations, financial condition or the conduct of the board of directors (see Sersansie and Nimmansomboon, 1996 for an English translation of the Act; also see Wiwattanakantang, 2001).<sup>7</sup> Moreover, under the Act, 25% of voting rights are sufficient to block the firm's critical activities that require at least 75% of the votes in the shareholders' meeting. These activities include, for example, merger, dissolution of the firm, and increase or decrease of the firm's registered capital.

A shareholder's combined voting rights are determined using the method described in La Porta et al. (1999) as follows. A shareholder has  $x\%$  of direct voting rights in the firm by controlling  $x\%$  of the votes through shares owned in the shareholder's name. A shareholder has  $x\%$  of indirect voting rights in the firm by: (1) directly controlling more than 25% of the votes in another firm which, in turn, directly controls  $x\%$  of the votes in the firm; or (2) directly controlling more than 25% of the votes in firm  $i$  which directly

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<sup>7</sup> Other activities include making a motion to the court for an order to dissolve the company on the grounds specified by the Act, bringing a suit against any director who fails to act in accordance with the laws or the firm's objectives and bylaws, and filing a motion with the court for an order to repeal shareholder resolution passed in violation of the Act or the company's bylaws.



controls more than 25% of the votes in firm  $j$ , which, in turn, directly controls  $x\%$  of the votes in the firm. Note that there can be a series of firms between firm  $i$  and firm  $j$  as long as each firm controls more than 25% of the votes in the next firm leading to firm  $j$ . If there are two or more shareholders with more than 25% of voting rights, the controlling shareholder is the shareholder with the largest combined voting rights.

### **3.3 Measure of audit committee effectiveness**

To measure audit committee effectiveness, I create a composite measure that combines four audit committee characteristics into a single variable. These four characteristics include audit committee size, the ratio of audit committee members with accounting financial expertise, average tenure of audit committee members, and average number of outside audit committee positions held by audit committee members.

Audit committee tenure is the number of years an audit committee member has served on the company's audit committee. The number of outside audit committee positions held includes only the number of audit committee positions held on the audit committee of other publicly listed companies on the SET main market. Audit committee members with *accounting* financial expertise are those with experience preparing or auditing financial statements, for example, experience as a certified public accountant, auditor, controller, and senior accountant. I also include audit committee members with experience as a university accounting professor as accounting financial expert.<sup>8</sup>

To construct this composite variable, I first create a dummy variable for each of the four audit committee characteristics. I then assign a value of 1 to the variable if the value

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<sup>8</sup> The reason for considering only audit committee members' accounting financial expertise is motivated by DeFond et al. (2005) who find that only accounting-based financial skills, but not general financial skills, improve the effectiveness of an audit committee.

of the corresponding audit committee characteristic is above the sample median and 0 if the value is below the sample median. In this regard, the value of 1 indicates more effectiveness and otherwise for the value of 0. The reason for such coding is based on prior literature discussed earlier. In particular, prior literature suggests that a larger audit committee or an audit committee containing more members with financial expertise, longer tenure, or more outside directorship is more effective at discharging its role in corporate governance.

Finally, I sum the value of the four dummy variables for each sample observation to create a composite measure of audit committee effectiveness, potentially ranging from 0 to 4. The larger the value, the more effective is an audit committee.

### 3.4 Model specification and variable definitions

In this section, I describe the models used to test the hypotheses set forth Chapter 2.

#### 3.4.1 Controlling shareholders, audit committee effectiveness, and accounting conservatism

To test the hypotheses on the associations of controlling shareholders and audit committee effectiveness with accounting conservatism, I employ the following three OLS regression models:

$$\begin{aligned}
NI_{it} = & \beta_0 + \beta_1 NRD_{it} + \beta_2 CS_{i,t-1} + \beta_3 ACE_{it} + \beta_4 MTB_{i,t-1} + \beta_5 LEV_{i,t-1} + \beta_6 SIZE_{i,t-1} \\
& + \beta_7 NRD_{it} * CS_{i,t-1} + \beta_8 NRD_{it} * ACE_{it} + \beta_9 NRD_{it} * MTB_{i,t-1} \\
& + \beta_{10} NRD_{it} * LEV_{i,t-1} + \beta_{11} NRD_{it} * SIZE_{i,t-1} + \beta_{12} R_{it} + \beta_{13} R_{it} * CS_{i,t-1} \\
& + \beta_{14} R_{it} * ACE_{it} + \beta_{15} R_{it} * MTB_{i,t-1} + \beta_{16} R_{it} * LEV_{i,t-1} + \beta_{17} R_{it} * SIZE_{i,t-1} \\
& + \beta_{18} R_{it} * NRD_{it} + \beta_{19} R_{it} * NRD_{it} * CS_{i,t-1} + \beta_{20} R_{it} * NRD_{it} * ACE_{it} \\
& + \beta_{21} R_{it} * NRD_{it} * MTB_{i,t-1} + \beta_{22} R_{it} * NRD_{it} * LEV_{i,t-1} \\
& + \beta_{23} R_{it} * NRD_{it} * SIZE_{i,t-1} + \varepsilon_{it}
\end{aligned} \tag{2}$$

$$\begin{aligned}
NI_{it} = & \beta_0 + \beta_1 NRD_{it} + \beta_2 FAMILY_{i,t-1} + \beta_3 WHLD_{i,t-1} + \beta_4 GOVT_{i,t-1} + \beta_5 FRGN_{i,t-1} \\
& + \beta_6 ACE_{it} + \beta_7 MTB_{i,t-1} + \beta_8 LEV_{i,t-1} + \beta_9 SIZE_{i,t-1} + \beta_{10} NRD_{it} * FAMILY_{i,t-1} \\
& + \beta_{11} NRD_{it} * WHLD_{i,t-1} + \beta_{12} NRD_{it} * GOVT_{i,t-1} + \beta_{13} NRD_{it} * FRGN_{i,t-1} \\
& + \beta_{14} NRD_{it} * ACE_{it} + \beta_{15} NRD_{it} * MTB_{i,t-1} + \beta_{16} NRD_{it} * LEV_{i,t-1} \\
& + \beta_{17} NRD_{it} * SIZE_{i,t-1} + \beta_{18} R_{it} + \beta_{19} R_{it} * FAMILY_{i,t-1} + \beta_{20} R_{it} * WHLD_{i,t-1} \\
& + \beta_{21} R_{it} * GOVT_{i,t-1} + \beta_{22} R_{it} * FRGN_{i,t-1} + \beta_{23} R_{it} * ACE_{it} + \beta_{24} R_{it} * MTB_{i,t-1} \\
& + \beta_{25} R_{it} * LEV_{i,t-1} + \beta_{26} R_{it} * SIZE_{i,t-1} + \beta_{27} R_{it} * NRD_{it} \\
& + \beta_{28} R_{it} * NRD_{it} * FAMILY_{i,t-1} + \beta_{29} R_{it} * NRD_{it} * WHLD_{i,t-1} \\
& + \beta_{30} R_{it} * NRD_{it} * GOVT_{i,t-1} + \beta_{31} R_{it} * NRD_{it} * FRGN_{i,t-1} \\
& + \beta_{32} R_{it} * NRD_{it} * ACE_{it} + \beta_{33} R_{it} * NRD_{it} * MTB_{i,t-1} + \beta_{34} R_{it} * NRD_{it} * LEV_{i,t-1} \\
& + \beta_{35} R_{it} * NRD_{it} * SIZE_{i,t-1} + \varepsilon_{it}
\end{aligned} \tag{3}$$

$$\begin{aligned}
NI_{it} = & \beta_0 + \beta_1 NRD_{it} + \beta_2 VR25\_50_{i,t-1} + \beta_3 VR50\_75_{i,t-1} + \beta_4 VR75_{i,t-1} + \beta_5 ACE_{it} \\
& + \beta_6 MTB_{i,t-1} + \beta_7 LEV_{i,t-1} + \beta_8 SIZE_{i,t-1} + \beta_9 NRD_{it} * VR25\_50_{i,t-1} \\
& + \beta_{10} NRD_{it} * VR50\_75_{i,t-1} + \beta_{11} NRD_{it} * VR75_{i,t-1} + \beta_{12} NRD_{it} * ACE_{it} \\
& + \beta_{13} NRD_{it} * MTB_{i,t-1} + \beta_{14} NRD_{it} * LEV_{i,t-1} + \beta_{15} NRD_{it} * SIZE_{i,t-1} + \beta_{16} R_{it} \\
& + \beta_{17} R_{it} * VR25\_50_{i,t-1} + \beta_{18} R_{it} * VR50\_75_{i,t-1} + \beta_{19} R_{it} * VR75_{i,t-1} \\
& + \beta_{20} R_{it} * ACE_{it} + \beta_{21} R_{it} * MTB_{i,t-1} + \beta_{22} R_{it} * LEV_{i,t-1} + \beta_{23} R_{it} * SIZE_{i,t-1} \\
& + \beta_{24} R_{it} * NRD_{it} + \beta_{25} R_{it} * NRD_{it} * VR25\_50_{i,t-1} \\
& + \beta_{26} R_{it} * NRD_{it} * VR50\_75_{i,t-1} + \beta_{27} R_{it} * NRD_{it} * VR75_{i,t-1} \\
& + \beta_{28} R_{it} * NRD_{it} * ACE_{it} + \beta_{29} R_{it} * NRD_{it} * MTB_{i,t-1} \\
& + \beta_{30} R_{it} * NRD_{it} * LEV_{i,t-1} + \beta_{31} R_{it} * NRD_{it} * SIZE_{i,t-1} + \varepsilon_{it}
\end{aligned} \tag{4}$$

where  $NI_{it}$  is firm  $i$ 's net income before extraordinary items divided by total assets at the beginning of year  $t$ ;  $R_{it}$  is firm  $i$ 's buy-and-hold return over year  $t$ ;  $NRD_{it}$  equals 1 if  $R_{it}$  is negative, 0 otherwise;  $CS_{i,t-1}$  equals 1 if firm  $i$  has a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $FAMILY_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is an individual or a family, 0 otherwise;  $WHLD_{i,t-1}$  equals 1 if firm  $i$  is a domestic corporation or financial institution that does not have a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $GOVT_{i,y-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is the domestic government or a

domestic government-related organization, 0 otherwise;  $FRGN_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is a foreign investor, 0 otherwise;  $VR25\_50_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has more than 25% but less than or equal to 50% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR50\_75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has between 50% and 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has at least 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $ACE_{it}$  is firm  $i$ 's level of audit committee effectiveness in year  $t$ , measured as a composite of four dummy variables for each of four characteristics of the firm's audit committee: ratio of accounting financial expertise, size, average number of outside audit committee positions held, and average tenure. Each dummy variable takes on a value of one if the value of the corresponding audit committee characteristic is above the sample median and zero otherwise;  $MTB_{t-1}$  is firm  $i$ 's market-to-book ratio, measured as the ratio of market value of equity to book value of equity at the beginning of year  $t$ ;  $LEV_{t-1}$  is firm  $i$ 's leverage, measured as the ratio of total debt to total assets at the beginning of year  $t$ ; and  $SIZE_{t-1}$  is firm  $i$ 's size, measured as the natural log of total assets at the beginning of year  $t$ .

Following Lafond and Roychowdhury (2008), market-to-book ratio, leverage and firm size are included in each of the above models as control variables. I estimate equations (2), (3) and (4) above each for the full sample (2005-2007). To alleviate concerns that endogeneity could be present in the relation between earnings quality and controlling ownership or audit committee effectiveness, I also estimate the above equations using a

subsample of data from 2006 and 2007 only (the data for controlling ownership and audit committee effectiveness is from 2005).

To further examine the effect of controlling shareholders on the association between audit committee effectiveness and accounting conservatism, I divide the full sample (2005-2007) and the subsample (2006-2007) into two groups, one with voting rights above 25% and the other with voting rights less than or equal to 25%. I conduct separate regressions on the two groups of each sample by employing the following model:

$$\begin{aligned}
NI_{it} = & \beta_0 + \beta_1 NRD_{it} + \beta_2 ACE_{it} + \beta_3 MTB_{i,t-1} + \beta_4 LEV_{i,t-1} + \beta_5 SIZE_{i,t-1} \\
& + \beta_6 NRD_{it} * ACE_{it} + \beta_7 NRD_{it} * MTB_{i,t-1} + \beta_8 NRD_{it} * LEV_{i,t-1} \\
& + \beta_9 NRD_{it} * SIZE_{i,t-1} + \beta_{10} R_{it} + \beta_{11} R_{it} * ACE_{it} + \beta_{12} R_{it} * MTB_{i,t-1} \\
& + \beta_{13} R_{it} * LEV_{i,t-1} + \beta_{14} R_{it} * SIZE_{i,t-1} + \beta_{15} R_{it} * NRD_{it} \\
& + \beta_{16} R_{it} * NRD_{it} * ACE_{it} + \beta_{17} R_{it} * NRD_{it} * MTB_{i,t-1} \\
& + \beta_{18} R_{it} * NRD_{it} * LEV_{i,t-1} + \beta_{19} R_{it} * NRD_{it} * SIZE_{i,t-1} + \varepsilon_{it}
\end{aligned} \tag{5}$$

where all variables are as previously defined.

### 3.4.2 Controlling shareholders, audit committee effectiveness, and accruals-based earnings quality

To test the hypotheses on the associations of controlling shareholders and audit committee effectiveness with accruals-based earnings quality, I employ the following three OLS regression models:

$$\begin{aligned}
EarningsQuality_{it} = & \beta_0 + \beta_1 CS_{i,t-1} + \beta_2 ACE_{it} + \beta_3 MTB_{i,t-1} + \beta_4 SGRWTH_{it} \\
& + \beta_5 ROA_{it} + \beta_6 CFO_{it} + \beta_7 VOL_{it} + \beta_8 LOPC_{it} + \beta_9 LEV_{i,t-1} \\
& + \beta_{10} SIZE_{i,t-1} + \beta_{11} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t + \varepsilon_{it}
\end{aligned} \tag{6}$$

$$\begin{aligned}
EarningsQuality_{it} = & \beta_0 + \beta_1 FAMILY_{i,t-1} + \beta_2 WHLD_{i,t-1} + \beta_3 GOVT_{i,t-1} \\
& + \beta_4 FRGN_{i,t-1} + \beta_5 ACE_{it} + \beta_6 MTB_{i,t-1} + \beta_7 SGRWTH_{it} \\
& + \beta_8 ROA_{it} + \beta_9 CFO_{it} + \beta_{10} VOL_{it} + \beta_{11} LOPC_{it} + \beta_{12} LEV_{i,t-1} \\
& + \beta_{13} SIZE_{i,t-1} + \beta_{14} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t + \varepsilon_{it}
\end{aligned} \tag{7}$$

$$\begin{aligned}
EarningsQuality_{it} = & \beta_0 + \beta_1 VR25\_50_{i,t-1} + \beta_2 VR50\_75_{i,t-1} + \beta_3 VR75_{i,t-1} \\
& + \beta_4 ACE_{it} + \beta_5 MTB_{i,t-1} + \beta_6 SGRWTH_{it} + \beta_7 ROA_{it} \\
& + \beta_8 CFO_{it} + \beta_9 VOL_{it} + \beta_{10} LOPC_{it} + \beta_{11} LEV_{i,t-1} \\
& + \beta_{12} SIZE_{i,t-1} + \beta_{13} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t \\
& + \varepsilon_{it}
\end{aligned} \tag{8}$$

where  $EarningsQuality_{it}$  is earnings quality measure for firm  $i$  in year  $t$  ( $ABSAA\_DD_{it}$ ,  $ABSAA\_JI_{it}$ ,  $ABSAA\_MJI_{it}$ ,  $ABSAA\_J2_{it}$ , or  $ABSAA\_MJ2_{it}$ );  $CS_{i,t-1}$  equals 1 if firm  $i$  has a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $FAMILY_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is an individual or a family, 0 otherwise;  $WHLD_{i,t-1}$  equals 1 if firm  $i$  is a domestic corporation or financial institution that does not have a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $GOVT_{i,y-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is the domestic government or a domestic government-related organization, 0 otherwise;  $FRGN_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is a foreign investor, 0 otherwise;  $VR25\_50_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has more than 25% but less than or equal to 50% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR50\_75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has between 50% and 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has at least 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $ACE_{it}$  is firm  $i$ 's level of audit committee effectiveness in year  $t$ , measured as a composite of four dummy variables for each of four

characteristics of the firm's audit committee: ratio of accounting financial expertise, size, average number of outside audit committee positions held, and average tenure. Each dummy variable takes on a value of one if the value of the corresponding audit committee characteristic is above the sample median and zero otherwise;  $MTB_{t-1}$  is firm  $i$ 's market-to-book ratio, measured as the ratio of market value of equity to book value of equity at the beginning of year  $t$ ;  $SGRWTH_{it}$  is firm  $i$ 's sales growth in year  $t$ , measured as the change in sales between year  $t$  and year  $t-1$  divided by sales in year  $t-1$ ;  $ROA_{it}$  is firm  $i$ 's return on assets in year  $t$ , measured as the ratio of year  $t$  net income before extraordinary items to year  $t-1$  total assets;  $CFO_{it}$  is firm  $i$ 's total cash flow from operations in year  $t$  taken from the statement of cash flows;  $VOL_{it}$  is firm  $i$ 's volatility in year  $t$ , measured as the standard deviation of monthly stock returns over the previous 12 months;  $LOPC_{it}$  is firm  $i$ 's length of operating cycle in year  $t$  (calculated as:  $360/[\text{Sales}/\text{Average accounts receivable}] + 360/[\text{Cost of goods sold}/\text{Average inventory}]$ ), in natural log form;  $LEV_{t-1}$  is firm  $i$ 's leverage, measured as the ratio of total debt to total assets at the beginning of year  $t$ ; and  $SIZE_{t-1}$  is firm  $i$ 's size, measured as the natural log of total assets at the beginning of year  $t$ ; and  $F\_AGE_{it}$  is firm  $i$ 's age in year  $t$ , measured as the natural log of number of years since the firm's inception;  $Industry_{it}$  are industry dummies based on industry classification by the Stock Exchange of Thailand, equal to 1 if firm  $i$  is from that industry group, 0 otherwise;  $Year_{it}$  are year dummies.

For each of the models above, I include standard control variables identified in previous research as being associated with abnormal accruals. Also, following Hribar and Nichols (2007), I include volatility of operations as a control variable. As mentioned above, I estimate each model for the full sample (2005-2007). I also estimate each of the

models using a subsample of data from 2006 and 2007 only, to alleviate endogeneity concerns.

To gain further insight on the associations of controlling shareholders and audit committee effectiveness with earnings quality, I the following model using positive only and negative only abnormal accruals as dependent variables. Positive or income-increasing abnormal accruals can be used to inflate current period earnings. Negative or income-decreasing abnormal accruals, on the other hand, can be used to take a “big bath” in earnings or to create “cookie-jar reserves” to allow for future period increase in earnings, especially in periods of weak financial performance. Specifically, I estimate the following OLS regression model:

$$\begin{aligned}
 SignedAbnAccruals_{it} = & \beta_0 + \beta_1 FAMILY_{i,t-1} + \beta_2 WHLD_{i,t-1} + \beta_3 GOVT_{i,t-1} \\
 & + \beta_4 FRGN_{i,t-1} + \beta_5 ACE_{it} + \beta_6 MTB_{i,t-1} + \beta_7 SGRWTH_{it} \\
 & + \beta_8 ROA_{it} + \beta_9 CFO_{it} + \beta_{10} VOL_{it} + \beta_{11} LOPC_{it} + \beta_{12} LEV_{i,t-1} \\
 & + \beta_{13} SIZE_{i,t-1} + \beta_{14} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t + \varepsilon_{it} \quad (9)
 \end{aligned}$$

where  $SignedAbnAccruals_{it}$  is signed abnormal accruals for firm  $i$  in year  $t$  ( $AA\_DD_{it}$ ,  $AA\_JI_{it}$ ,  $AA\_MJI_{it}$ ,  $AA\_J2_{it}$ , or  $AA\_MJ2_{it}$ ); and all other variables are as previously defined.

To further examine whether controlling shareholders influence the relation between audit committee effectiveness and accruals-based earnings quality, I estimate the following model for the full sample (2005-2007) and the subsample (2006-2007). I also divide each of the samples into two groups, one with voting rights above 25% and the other with voting rights less than or equal to 25%, and conduct separate OLS regressions on the two groups of each sample:



$$\begin{aligned}
EarningsQuality_{it} = & \beta_0 + \beta_1 ACE_{it} + \beta_2 MTB_{i,t-1} + \beta_3 SGRWTH_{it} + \beta_4 ROA_{it} \\
& + \beta_5 CFO_{it} + \beta_6 VOL_{it} + \beta_7 LOPC_{it} + \beta_8 LEV_{i,t-1} \\
& + \beta_9 SIZE_{i,t-1} + \beta_{10} F - AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t \\
& + \varepsilon_{it}
\end{aligned} \tag{10}$$

where all variables are as previously defined.

### 3.5 Data and sample

This study uses data for non-financial public firms listed on the Stock Exchange of Thailand (SET)'s main market. For the initial sample, I start with identifying firms that were listed on the SET's main market at the end of 2005 from the SET Market Analysis and Reporting Tool (SETSMART) database<sup>9</sup>. I then exclude firms in financial sector, firms listed during 2005, and firms with fiscal year-end other than 2005. I also exclude firms whose shares were suspended from trading by the SET for most of or the entire 2005<sup>10</sup> and firms under bankruptcy proceedings<sup>11</sup>. (These two groups of firms mostly overlap.) Panel A of Table 1 describes the sample size and how I arrive at the 2005 initial sample.

Voting rights of shareholders are calculated for each firm in the 2005 sample. As discussed earlier, in this study, a shareholder with more than 25% of voting rights in the firm is classified as a controlling shareholder. Since multiple-class share structure is not allowed in Thailand, one share equals one vote. Voting rights of a shareholder are thus calculated by combining direct and indirect ownership of the shareholder in the firm. As an example of how I determine the voting rights, suppose shareholder A owns 15% of

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<sup>9</sup> This database is developed by the Stock Exchange of Thailand. It contains listed company information, news and historical trading prices.

<sup>10</sup> These are firms whose shareholders' equity fell below zero.

<sup>11</sup> Shareholders of these firms transferred all the rights in the firms, except for the right to receive dividends, to the bankruptcy planner. These firms held no annual shareholder meeting.

shares directly in the sample listed firm X and 28% directly in a private firm Y. Firm Y, in turn, owns 20% of shares in firm X. Since shareholder A owns more than 25% of firm Y, shareholder A is a controlling shareholder of firm Y, and hence, owns 20% of firm X indirectly through firm Y. In this case, shareholder A's voting rights in firm X are 35%, and hence a controlling owner of firm X. If, instead, shareholder A owns only 20% of firm Y, shareholder A does not have control over firm Y. Shareholder A's voting rights in firm X are, therefore, only 15%. In this case, if shareholder A and firm Y are the only major shareholders of firm X, firm X does not have a controlling shareholder (no shareholder with more than 25% of voting rights). Note that a firm may have two or more shareholders with voting rights more than 25%. In this case, a controlling shareholder is assigned to the shareholder with the highest voting rights in the firm.

For shareholders who are family members, their voting rights in the firm are combined and treated as voting rights of a shareholder. In this study, family members include an individual's spouse, parents, children, siblings, and relatives, whether by blood, marriage or adoption. Individuals with the same last names are grouped as a family. For individuals not having the same last names, I determine whether they are family members by consulting several sources: each firm's Annual Disclosure Report (Form 56-1)<sup>12</sup>, a two-book series titled *55 Prominent Families* (Sappaiboon, 2000a, 2000b), a publication titled *Thai Business Groups: A Unique Guide to Who Owns What* (Brooker Group, 2003), and various Internet newspaper/magazine articles.

Data on shareholders and ownership for the calculation of voting rights is obtained from several sources. Data on immediate (direct) ownership at the beginning of 2005

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<sup>12</sup> Each listed firm is required to submit this Form annually to the SET. The Form provides information on family relationship of family members involved in management.

(around March or April) for each sample firm is obtained from SETSMART.

SETSMART provides lists of all shareholders owning at least 0.5 percent of shares in each firm. Data on shareholders and ownership of Thai private firms at the beginning of 2005 is obtained from the Department of Business Development (DBD), Ministry of Commerce of Thailand. In some cases when the list of shareholders at the beginning of 2005 is not available at the DBD, I use the most recent list of shareholders from the Business Online (BOL) database<sup>13</sup>. Form 56-1 of each sample firm, in a few cases, provides sufficient information to determine whether the firm has a controlling shareholder along with the voting rights. Information on foreign companies' shareholders is gathered from several sources, including the company's Web site (if available), annual reports (if available), Form 56-1, the company's news and announcement submitted to the SET available from SETSMART, and other Internet resources. A majority of foreign controlling shareholders are publicly listed firms in Japan, Hong Kong, or Singapore, and information on controlling shareholders is readily available in their annual reports.

Data on audit committee characteristics used to construct a composite measure of audit committee effectiveness is collected for each 2005 sample firm. A list of audit committee members at the end of 2005 is obtained from SETSMART and crosschecked with Form 56-1. Data on the starting date of an audit committee member to compute audit committee tenure and on the number of audit committee positions held at other SET listed firms is obtained from SETSMART. Data on audit committee size is also obtained from SETSMART. Data on audit committee members' qualifications used to determine

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<sup>13</sup> The BOL database is provided by Business Online, a public company listed on the SET's alternative market. The company has a contract with the DBD to provide information of all companies registered with the DBD (essentially all companies registered in Thailand).

whether an audit committee is an accounting financial expert is collected from each firm's Form 56-1 (multiple years), annual reports, Web site, and various Internet news articles.

The final sample uses financial data from 2005-2007 and corporate governance data from 2005. To construct this sample, I start with 298 unique firms from the 2005 initial sample, thus yielding potential firm-years of 894. Some firms in the 2005 initial sample, however, delisted in 2006 or 2007 and some firms' stocks were suspended from trading for most of 2007. Therefore, I exclude these firms. Panel B of Table 1 describes the sample selection process of this 2005-2007 final sample.

Financial and stock returns data is obtained for each firm-year in the final sample (2005-2007) from Thomson Financial's Worldscope database. Missing financial data for some firms is supplemented with data from the firm's financial statements obtained from SETSMART. Corporate governance data, including data on controlling shareholders, voting rights, and audit committee characteristics, is collected for 2005 as described above. For 2006-2007, I assume the 2005 corporate governance data applies to these two years as well. For audit committee members' tenure, I add one and two to the 2005 data and apply to 2006 and 2007 firm-years, respectively, assuming the 2005 audit committee members stay on to 2007. This practice of applying corporate governance data for a certain year to other years has been done in prior research, for example, in Ali et al. (2007) for family firm classification, and in Fan and Wong (2002) for ownership data. The practice is based on the argument that corporate governance characteristics of firms tend to be sticky.

Note that for the analysis using the Dechow and Dichev (2002) model, the sample size is reduced due to the requirement of data for cash flow from operations at time  $t+1$ .

Panel C of Table 1 describes how I arrive at the final sample for the analysis using the Dechow and Dichev (2002) model.

## **Chapter 4: Data Analysis and Results**

This Chapter reports the descriptive information and statistics of variables used in the study and the results of the empirical tests. It begins with the descriptive information on controlling shareholders and their voting rights, followed by the descriptive statistics of variables, and finally the results of the empirical results.

### **4.1 Descriptive information on controlling shareholders and voting rights of controlling shareholders**

Table 3 presents some information on type of shareholders constituted the 2005 initial sample, along with information on voting rights of controlling shareholders. Panel A shows that approximately 83% of firms in the 2005 initial sample have a controlling shareholder as defined previously. Approximately 63% of these firms are controlled by Thai families, with average voting rights of 50.58% in the firm. Also as high as about 90% of family-controlled firms are founding families. Family controlling shareholders with family members involved in management, whether as a CEO or Chairman of the Board of Directors, have slightly higher average voting rights than those not involved in management. Moreover, controlling shareholders that are widely-held corporations or financial institutions have lowest average voting rights compared to other types of controlling shareholders.

Panel B presents level of voting rights by type of controlling shareholder. As shown in Panel B, 14 out of 188 family controlling shareholders have at least 75% voting rights in the firm. Most of the government controlling shareholders have voting rights between

25%-50%. Lastly, five foreign controlling shareholders that control at least 75% of the votes are the firm's parent companies.

#### **4.2 Descriptive statistics**

Table 4 presents descriptive statistics on controlling shareholders, audit committee effectiveness, measures of earnings quality, and other firm characteristics in the sample. Panel A is for variables used in accounting conservatism analysis. Panels B and C are for variables used in analyses related to earnings quality. Note that, as mentioned earlier, analyses related to accounting conservatism and discretionary-accruals-based earnings quality utilize the full sample of 883 firm-year observations. Some of the same variables are also used in both analyses. Sample size for analyses using the DD is reduced slightly due to some data requirement. Therefore, I present summary statistics for all variables used in these analyses separately in Panel B.

Panel A of Table 4 shows that as expected, approximately 82% of firm-years have a controlling shareholder (*CS*), similar to that reported in Table 3 for firms in the 2005 initial sample. The proportion of each type of controlling shareholders in this full sample is also similar to those reported in Table 3 for firms in the 2005 initial sample, as should be expected. For the voting rights of controlling shareholders, Panel A of Table 4 shows that approximately 44% of controlling shareholders in the sample have voting rights between 25%-50% (*VR25\_50*), 32% between 50%-75% (*VR50\_75*), and 7% at least 75% (*VR\_75*). For audit committee effectiveness (*ACE*), as discussed earlier, the highest possible value is 4 and the higher value implies more audit committee effectiveness. The mean value of *ACE* is approximately 1.5 with the median of 1, implying that most firms in the sample do not have very high score on audit committee effectiveness. Summary

statistics for controlling shareholder and audit committee effectiveness variables in Panel B of Table 4 for analyses using the Dechow and Dichev (2002) model are closely similar to those for the full sample.

For net income and returns variables, Panel A of Table 4 shows that, consistent with accounting conservatism, the median of *NI* is higher than the mean, indicating a left-skewed distribution of earnings, while returns (*R*) is right-skewed. The average annual buy-and-hold return (*R*) is approximately 9 %. Also, less than half of the observations in the sample exhibit negative annual buy-and-hold returns. The mean value of negative returns dummy (*NRD*) of shows approximately 46% of observations exhibit a negative annual buy-and-hold return.

Summary statistics for variables related to earnings quality are presented in Panels B and C of Table 4. Abnormal accruals from DD, both absolute and signed (*AA\_DD* and *ABSAA\_DD*), are provided in Panel B. Abnormal accruals from other accruals models, both absolute and signed (*AA* and *ABSAA*), are provided in Panel C. As expected, the mean and median values of the signed abnormal accruals from all models are close to zero by construction. The absolute value of abnormals from MJ1 (*ABSAA\_MJI*) has the highest mean, while that from DD (*ABSAA\_DD*) has the lowest.

Summary statistics for variables related to firm characteristics are similar for both samples. Panels A and B of Table 4 show that average market-to-book ratio of firms in the sample is 1.4. Panels B and C show that average sales growth is 10% and average ROA is 5%.

Table 5 reports the Pearson and Spearman correlations among variables. Pearson (Spearman) correlations appear above (below) the diagonal. Panel A is for variables used



in accounting conservatism analysis. Panel B are for variables used in analyses using DD and Panel C are for those using discretionary accruals models.

Overall, Table 5 shows that *SIZE* (firm size) is negatively correlated with *FAMILY* but positively correlated with *GOVT*. This is to be expected since firms with the government as a controlling shareholder, such as State enterprises, tends to be of larger size. Panel A of Table 5 also shows that *GOVT* is positively correlated with *NI*, suggesting that government-controlled firms are generally profitable. For variables related to net income and returns, Panel A of Table 5 shows that *NI* is positively correlated with *R* and negatively correlated with *NRD*. Such correlations suggest that accounting earnings incorporate at least some information impounded in returns.

For earnings quality variables, Panel C of Table 5 shows that the discretionary accruals measures of earnings quality (*ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2*) are highly correlated. Also, *CS* is negatively correlated with *ABSAA\_J1* and *ABSAA\_MJ1*. Together, Panels B and C of Table 5 show that *VR50-75* is negatively correlated with all variables for earnings quality (*ABSAA*), suggesting that controlling shareholders with voting rights between 51% and 75% tend to have higher earnings quality. Further, all variables for earnings quality are negatively correlated with *F\_AGE* and *ROA*, while positively correlated with *VOL* and *LOPC*. These associations indicate that younger firms and firms with lower performance, higher operating volatility, and longer operating cycle tend to generate larger residuals from the estimation of accruals models.

### **4.3 Contemporaneous association between earnings and returns**

Table 6 presents OLS regression results of equation (1) for the Basu (1997) model. The coefficient  $\beta_2$  on stock return measures the sensitivity of accounting earnings to positive returns or good news. The coefficient  $\beta_3$  on the interaction between stock return and the negative return dummy measures the incremental sensitivity of accounting earnings to negative returns or bad news.

Panel A of Table 6 shows that, for the full sample (2005-2007),  $\beta_3$  is positive and significant indicating more timely recognition of losses (bad news) relative to gains (good news). In Panel B of Table 6, I divide observations of each sample into two groups based on whether the return was positive or negative. Panel B of Table 6 shows that the adjusted  $R^2$  is higher for the negative return sample, indicating higher explanatory power of negative returns than positive returns. The slope-coefficient is also higher for the negative return sample. Overall, in contrast to Ball et al. (2003), these results suggest that accounting conservatism is present in Thailand, at least during the sample periods.

### **4.4 Comparison of the degree of accounting conservatism between groups**

As discussed above, the coefficient  $\beta_3$  from the Basu (1997) model presented in equation (1) captures the incremental sensitivity of accounting earnings to negative returns or bad news. This coefficient  $\beta_3$  is used in Table 7 and in this study as a measure of the degree of accounting conservatism.

The purpose of Table 7 is to provide an overview picture of whether there is any difference in the degree of accounting conservatism between different types of groups in the sample. I estimate a separate regression of equation (1) for each group. Then, I use

the Chow test to determine whether the difference in  $\beta_3$  coefficients between groups is significantly different from zero. Panel A of Table 7 shows the comparison of the degree of conservatism between groups with different types of shareholders. In Panel B of Table 7, for composite measure of audit committee effectiveness, observations are divided into two groups based on the value of each observation, whether above or below the sample median.

Overall, Panel A of Table 7 shows that there are some differences in the degree of accounting conservatism among groups especially between firms with no controlling shareholder and firms with a controlling shareholder. In particular, firms with a controlling shareholder are shown to report a lower degree of accounting conservatism than firms with no controlling shareholder in general. Firms controlled by widely-held corporations or financial institution report a lower degree of accounting conservatism when compared to firms with no controlling shareholder but not to firms with other types of controlling shareholders. Firms whose controlling shareholder has voting rights between 50% and 75% are shown to report a lower degree of accounting conservatism than both firms with no controlling shareholder and firm whose controlling shareholder has different level of voting rights. Lastly, Panel B of Table 7 shows no significant difference in the degree of accounting conservatism between firms whose audit committee possess stronger governance characteristics and their counterparts.

#### **4.5 Controlling shareholders, audit committee effectiveness and accounting conservatism**

Table 8 reports regression results of equation (2). Panel A reports the results for the full sample (2005-2007). To alleviate endogeneity concerns, as mentioned earlier, I also

report the results for the subsample (2006-2007) in Panel B. Since the asymmetric timeliness of bad news relative to good news (the degree of accounting conservatism) is of interest here, I will focus the discussion mainly on the interaction between  $R*NRD$  and the test variables. Both Panels A and B of Table 8 present three regressions. In regression (1), to examine the relation between controlling shareholders and accounting conservatism before controlling for audit committee effectiveness, only the variable  $CS$ , its interaction terms, and control variables are included in model. In regression (2), in contrast to regression (1), only the variable  $ACE$ , its interaction terms, and control variables are included in the model, to see the relation between audit committee effectiveness and accounting conservatism before controlling for  $CS$ . Regression (3) includes all variables.

In Panel A of Table 8, the coefficients on  $R*NRD*CS$  in both regressions (1) and (3) are negative and significant, indicating that firms with a controlling shareholder are less asymmetrically timely in recognizing bad news, compared to firms with no controlling shareholder. Similar results are shown in Panel B for the subsample (2006-2007). For the audit committee variable, both Panels A and B of Table 8 show insignificant coefficients on  $R*NRD*ACE$  in regressions (2) and (3), suggesting that there is no difference in the degree of accounting conservatism between firms whose audit committee possesses stronger governance characteristics and weaker governance characteristics, whether or not  $CS$  is controlled for.

Table 9 reports regressions results of equations (3) and (4). Panel A reports the results for the full sample (2005-2007) and Panel B for the subsample (2006-2007). Focusing first on Panel A of Table 9, three columns on the left present the results of the relation

between different types of controlling shareholders and accounting conservatism. The coefficients on  $R*NRD*FAMILY$ ,  $R*NRD*WHL$  and  $R*NRD*GOVT$  are significantly negative, suggesting that firms whose controlling shareholder is a family, a widely-held firm or financial institution, or the government are less asymmetrically timely in recognizing bad news than firms with no controlling shareholder. Three columns on the right present the results of the relation between different levels of voting rights of controlling shareholders and accounting conservatism. The coefficients on  $R*NRD*VR25\_50$  and  $R*NRD*VR50\_75$  are significantly negative, suggesting that firms whose controlling shareholder has voting rights between 25%-50% and between 50%-75% report less conservative accounting earnings than firms with no controlling shareholder. For the audit committee effectiveness variable, the coefficient on  $R*NRD*ACE$  is insignificant in Panel A of Table 9, suggesting no difference in accounting conservatism between firms with higher governance quality audit committee and lower quality one. Panel B of Table 9 reports similar results to those discussed for Panel A of Table 9.

To further examine whether the role of the audit committee is different in firms with and without a controlling shareholder, the full sample (2005-2007) and the subsample (2006-2007), each are divided into two subgroups using the voting rights level of 25% as a cut off.

Table 10 reports the results of the regression of equation (4) performed for each of the four subgroups. For the full sample (2005-2007), the coefficient on  $R*NRD*ACE$  is significantly negative for firms with no controlling shareholders, but not significant for firms with a controlling shareholder. The results seem to suggest that the role of the audit

committee is moderated in firms with a controlling shareholder. The results for the subsample (2006-2007), however, show insignificant coefficient on  $R*NRD*ACE$  for both firms with and without a controlling shareholder. Given that the regression of the subsample (2006-2007) should provide more robust results than that of the full sample (2005-2007), I interpret the results in Table 10 as do not provide evidence that the role of the audit committee is different in firms with and without a controlling shareholder.

#### **4.6 Controlling shareholders, audit committee effectiveness and accruals-based earnings quality**

Table 11 presents the results of the regression of equation (6) of five accruals-based earnings quality measures on controlling shareholders and audit committee effectiveness. Panel A presents the results for the full sample (2005-2007). Panel B presents the results for the subsample (2006-2007). The coefficient on  $CS$ , although not significant in Panel A of Table 11, is negative and significant in four models in Panel B. Given that the regression performed using the subsample of 2006-2007 should help reduce endogeneity bias, if any, in the full sample regression, these results suggest firms with a controlling shareholder have better earnings quality than their counterparts. The coefficient on  $ACE$ , however, is not significant in all models in both Panels A and B of Table 11.

Table 12 reports the results of the regression of equation (7). Accruals-based earnings quality measures are regressed on different types of controlling shareholders and audit committee effectiveness. Panel A reports the results of the regression run on the full sample (2005-2007), and Panel B on the subsample (2006-2007). Panel A of Table 12 shows that the coefficient on  $FAMILY$  is negative and significant in the regressions using absolute values of discretionary or abnormal accruals from J1 and MJ1. The coefficient

on *GOVT* is also negative and significant in the regression using absolute values of abnormal accruals from MJ2. As in Table 11, Table 12 shows stronger results for the subsample (2006-2007) in Panel B than for the full sample (2005-2007) in Panel A. In Panel B of Table 12, the coefficient on *FAMILY* is negative and significant in all five models. The coefficient on *WHLD* is negative and significant in the regression using absolute value of abnormal accruals from DD. The coefficient on *GOVT* is negative and significant in four models. Lastly, the coefficient on *FRGN* is negative and significant in the regression using absolute values of abnormal accruals from J1 and J2. These results are consistent with those in Table 11 and, overall, suggest that firms with a controlling shareholder, especially family and the government controlling shareholders, are associated with higher accruals-based earnings quality than firms with no controlling shareholder. As in Table 11, the coefficient on *ACE* is insignificant in all models in both Panels A and B of Table 12.

Table 13 summarizes the results of the regression of equation (8), in which accruals-based earnings quality measures are regressed on different levels of voting rights of controlling shareholders and audit committee effectiveness. Again, Panel A summarizes the results of the regression run on the full sample (2005-2007), and Panel B on the subsample (2006-2007). Panel A of Table 13 shows that *VR50-75* is significantly negatively related to measures of earnings quality in three models. As in previous tables, Table 13 shows stronger results for the subsample (2006-2007) in Panel B than for the full sample (2005-2007) in Panel A. Panel B of Table 13 shows that *VR25-50* is significantly negatively related to measures of earnings quality in four models and *VR50-75* in all models. Panel B of Table 13 also shows that *VR75* is significantly negatively

related to *ABSAA\_J1*, the absolute value of abnormal accruals from J1. These results suggest that firms with a controlling shareholder, especially those with voting rights below 75%, are associated with higher accruals-based earnings quality than firms with no controlling shareholder. The coefficient on *ACE*, consistent with previous tables, is insignificant in all model in both Panels A and B of Table 13.

Table 14 reports the results of the regressions of equation (9) using positive only and negative only abnormal accruals as dependent variables. As mentioned earlier, positive or income-increasing abnormal accruals can be used to inflate current period earnings, while negative or income-decreasing abnormal accruals can be used to increase future period earnings. The results are shown in Table 14. Panels A and B of Table 14 reports the results for the full sample (2005-2007) and Panels C and D for the subsample (2006-2007). Moreover, Panels A and C of Table 14 reports the results for positive only abnormal accruals as dependent variables, and Panels B and D for negative only.

For positive or income-increasing abnormal accruals and controlling shareholder variables, only the coefficient on *FRGN* is significant and is positive, as shown in Panel A of Table 14 for the full sample (2005-2007). For negative or income-decreasing abnormal accruals and controlling shareholder variables, Panel B of Table 14 shows that the coefficient on *FAMILY* is positive and significant in all models. These results are consistent with those shown in Panel D of Table 14 for the subsample (2006-2007), where the coefficient on *FAMILY* is also positive and significant in four of five models.

For other types of controlling shareholders, Panel B of Table 4 shows that *GOVT* is significantly positively related to income-decreasing abnormal accruals from MJ2, consistent with the results shown in Panel D of Table 14 for the subsample (2006-2007)



where *GOVT* is significantly positively related to income-decreasing abnormal accruals from J2 and MJ2. Further, Panel D of Table 14 reports that *WHLD* is significantly positively related to income-decreasing abnormal accruals from J2 and MJ2 and *FRGN* is significantly positively related to income-decreasing abnormal accruals from J1, J2 and MJ2.

The results on the relation between signed abnormal accruals and controlling shareholder variables shown in Table 14 above indicate that the positive (negative) association between accruals-based earnings quality (absolute value of abnormal accruals) and firms with a controlling shareholder reported in previous tables is largely driven by negative abnormal accruals. Overall, the results suggest that firms with a controlling shareholder, especially a family controlling shareholder, are less involved in income-decreasing activities, such as taking a big bath on earnings or creating cookie-jar reserves, than firms with no controlling shareholder. There is, however, only weak evidence suggesting that firms with foreign controlling shareholders are more involved in income-increasing behavior than firms with no controlling shareholder.

With respect to *ACE*, Panel C of Table 14 for the subsample (2006-2007) shows that *ACE* is significantly positively related to positive or income-increasing abnormal accruals from J1 and MJ1. For negative or income-decreasing abnormal accruals, both Panel B of Table 14 for the full sample (2005-2007) and Panel D for the subsample (2006-2007) show that *ACE* is significantly negatively related to *AA\_MJ2*. These results provide some evidence, which is unexpected and inconsistent with prior studies, that an audit committee with more desirable governance characteristics as suggested in prior studies is less effective at constraining income-increasing and -decreasing activities.

Given a general lack of significant relation between audit committee effectiveness and accruals-based earnings quality shown in previous tables, Tables 15 and 16 report the results from further examination of whether controlling shareholders influence the relation between audit committee effectiveness and accruals-based earnings quality. Table 15 presents the results from regressing accruals-based earnings quality measures on the measure of audit committee effectiveness according to equation (10). Variables related to controlling shareholders are excluded from the model. Panel A presents the results for the full sample (2005-2007) and Panel B for the subsample (2006-2007). Both Panels A and B of Table 15 show that even before controlling for variables related to controlling shareholder, *ACE* is not significantly related to measures of accruals-based earnings quality.

For Table 16, the regression of accruals-based earnings quality measures on the measure of audit committee effectiveness, per equation (10), is performed separately for subgroups of firms with a controlling shareholder and with no controlling shareholder. The objective is to examine more closely whether there is any difference in the association of audit committee effectiveness with accruals-based earnings quality between firms with a controlling shareholder and those with no controlling shareholder. Panels A and C of Table 16 report the results for firms with a controlling shareholder using the full sample (2005-2007) and subsample (2006-2007), respectively, Panels B and C report the results for firms with no controlling shareholder. The results show that the coefficient on *ACE* is insignificant in all models in all panels.

The results in Tables 15 and 16 suggest that first, there is no difference in the association with accruals-based earnings quality between audit committees possessing

stronger governance quality as suggested in previous research and their counterparts with weaker quality, and second, such lack of association is not influenced by the presence of controlling shareholders.

In summary, the results in this section provide evidence that firms with a controlling shareholder are associated with higher accruals-based earnings quality than their counterparts with no controlling shareholder. The results are strong especially for firms with family or the government as controlling shareholders and firms whose controlling shareholders' voting rights are below 75%. The results also suggest that this negative relation is primarily driven by the relation between firms with a controlling shareholder and negative or income-decreasing abnormal accruals. In particular, the results provide strong evidence that firms with family controlling shareholders are less involved in income-decreasing activities than firms with no controlling shareholder. The results, however, do not provide evidence that audit committees with stronger governance characteristics are associated with higher accruals-based earnings quality.

## **Chapter 5: Additional Analysis**

This Chapter presents additional analyses to gain further insight into the results from the main empirical tests. First, it presents an analysis on the relation between controlling shareholders and firm performance. Then it presents an analysis using an alternative measure of ownership concentration.

### **5.1 Controlling shareholders and firm performance**

In this section, I examine the effect of controlling shareholders on firm performance. The regression results discussed in the previous section suggest that firms with a controlling shareholder are associated with higher accruals-based earnings quality, but with less accounting conservatism than firms with no controlling shareholder. The results for accounting conservatism appear to be consistent with the predictions of both the entrenchment effect and the demand for accounting conservatism arguments. In an attempt to gain further insight into which of these arguments help explain the results on the relation between controlling shareholders and accounting conservatism, I conduct an additional analysis to determine whether firms with a controlling shareholder over or under perform those with no controlling shareholder.<sup>14</sup> In this case, the entrenchment effect argument would predict underperformance of firms with a controlling shareholder, while the demand for accounting conservatism would predict the opposite.

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<sup>14</sup> Wiwattanakantang (2001) has done a similar analysis on a 1996 sample of Thai listed firms. She finds that firms with a controlling shareholder outperform their counterparts.

### 5.1.1 Model specification and variable definitions

To test the effect of controlling shareholders on firm performance, I employ the following three OLS regression models:

$$\begin{aligned} PERFORMANCE_{it} = & \beta_0 + \beta_1 CS_{i,t-1} + \beta_2 SGRWTH_{it} + \beta_3 VOL_{it} + \beta_4 LEV_{i,t-1} \\ & + \beta_5 SIZE_{i,t-1} + \beta_6 F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t \\ & + \varepsilon_{it} \end{aligned} \quad (11)$$

$$\begin{aligned} PERFORMANCE_{it} = & \beta_0 + \beta_1 FAMILY_{i,t-1} + \beta_2 WHLD_{i,t-1} + \beta_3 GOVT_{i,t-1} \\ & + \beta_4 FRGN_{i,t-1} + \beta_5 SGRWTH_{it} + \beta_6 VOL_{it} + \beta_7 LEV_{i,t-1} \\ & + \beta_8 SIZE_{i,t-1} + \beta_9 F\_AGE_{it} + \sum \gamma Industry_{it} \\ & + \sum \delta Year_t + \varepsilon_{it} \end{aligned} \quad (12)$$

$$\begin{aligned} PERFORMANCE_{it} = & \beta_0 + \beta_1 VR25\_50_{i,t-1} + \beta_2 VR50\_75_{i,t-1} + \beta_3 VR75_{i,t-1} \\ & + \beta_4 SGRWTH_{it} + \beta_5 VOL_{it} + \beta_6 LEV_{i,t-1} + \beta_7 SIZE_{i,t-1} \\ & + \beta_8 F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t + \varepsilon_{it} \end{aligned} \quad (13)$$

where  $PERFORMANCE_{it}$  is performance measure for firm  $i$  in year  $t$  [ $ROA$ ,  $ROA(EBITDA)$ , or Tobin's  $q$ ];  $ROA$  is return on assets, measured as the ratio of net income before extraordinary items to beginning-of-period total assets;  $ROA(EBITDA)$  is return on assets, measured as the ratio of earnings before interest, taxes, depreciation and amortization to beginning-of-year total assets;  $Tobin's\ q$  is ratio of the firm's market value to total assets, measured as the ratio of market value of equity plus book value of preferred stock and total debt to total assets;  $CS_{i,t-1}$  equals 1 if firm  $i$  has a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $FAMILY_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is an individual or a family, 0 otherwise;  $WHLD_{i,t-1}$  equals 1 if firm  $i$  is a domestic corporation or financial institution that does not have a controlling shareholder at the beginning of year  $t$ , 0 otherwise;  $GOVT_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is the

domestic government or a domestic government-related organization, 0 otherwise;  $FRGN_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder at the beginning of year  $t$  is a foreign investor, 0 otherwise;  $VR25\_50_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has more than 25% but less than or equal to 50% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR50\_75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has between 50% and 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $VR75_{i,t-1}$  equals 1 if firm  $i$ 's controlling shareholder has at least 75% of voting rights in the firm at the beginning of year  $t$ , 0 otherwise;  $SGRWTH_{it}$  is firm  $i$ 's sales growth in year  $t$ , measured as the change in sales between year  $t$  and year  $t-1$  divided by sales in year  $t-1$ ;  $VOL_{it}$  is firm  $i$ 's volatility in year  $t$ , measured as the standard deviation of monthly stock returns over the previous 12 months; and  $F\_AGE_{it}$  is firm  $i$ 's age in year  $t$ , measured as the natural log of number of years since the firm's inception;  $Industry_{it}$  are industry dummies based on industry classification by the Stock Exchange of Thailand, equal to 1 if firm  $i$  is from that industry group, 0 otherwise;  $Year_{it}$  are year dummies.

## 5.1.2 Results

### 5.1.2.1 Descriptive statistics

Panel A of Table 17 presents summary statistics of additional variables not used in prior analysis. Panel B of Table 17 presents Pearson and Spearman correlation of variables used in this analysis. Panel A shows that the mean ROA calculated using EBIT,  $ROA (EBITDA)$ , is approximately 13%, and the mean Tobin's  $q$  is approximately 1.2. For comparison purpose, the mean ROA calculated using net income before extraordinary items presented in Panel C of Table 4 is approximately 5.2%.

Panel B of Table 17 shows that *GOVT* is correlated with all three performance measures. *CS* is correlated with *ROA (EBITDA)* using Spearman correlation. All three measures of performance, as expected, are also correlated.

#### **5.1.2.2 Controlling shareholders and firm performance**

Table 18 presents regression results of equations (11) through (13). Panel A of Table 18 shows that the coefficient on *CS* is significantly positive in all three models using three measures of performance. Panel B of Table 18 shows that the coefficient on *FAMILY* is significant in all three models, and the coefficient on *GOVT* is significant in models with *ROA* and *ROA(EBITDA)* as dependent variables. These results suggest that family- and the government-controlled firms are significantly and positively associated with firm performance. Panel C of Table 18 presents results of the relation between different level of voting rights of controlling shareholders and firm performance. The results show that the *VR25-50* is significantly positively related to all measures of performance, while *VR50\_75* is significantly positively related to *ROA* and *ROA(EBITDA)*.

The results presented here suggest that firms with a controlling shareholder, especially family- and the government-controlled firms, overperform firms with no controlling shareholder. Firms whose voting rights of the controlling shareholder are below 75 are also found to over perform firms with no controlling shareholders. As such, it seems that the entrenchment effect may not be the reason for less accounting conservatism among firms with a controlling shareholder, but rather the lack of demand for accounting conservatism.

## **5.2 Alternative ownership concentration measure**

Following La Porta et al. (1999), this study uses *ultimate* ownership as a measure in determining whether a firm has a controlling shareholder with voting rights more than 25%. As discussed previously, shares of firms in Thailand and most of East Asia are often owned through a web of several to many public and private firms. Ultimate ownership, thus, should be an appropriate way to identify true ownership and control. Several prior studies, however, have used *immediate* ownership as an ownership concentration measure. For example, Leuz et al. (2005) use the percentage of common shares owned by the largest three shareholders as a measure of ownership concentration. Demsetz and Lehn (1985) consider top five and top 20 shareholders. Therefore, in this section, I conduct additional analyses using the percentage of shares owned by top three and top five shareholders as independent variables instead of controlling shareholder variables.

### **5.2.1 Top three and top five shareholders**

For this additional analysis, I collected data on the three and five largest shareholders of each firm from the SETSMART database. The data is collected for each year from 2005 to 2007. Then, for each firm, I calculate the combined ownership stake of these three and five shareholders and use as alternative measures of ownership concentration. For the final sample of 883 firm-years, the mean (median) ownership of the top three and top five shareholders are approximately 49% (47%) and 58% (57.5%), respectively. The mean and median ownership of the top three and top five shareholders for the sample of 873 firm-years to be used in analyses using the Dechow and Dichev (2002) model are closely similar to those of the full 883 firm-year sample.



## 5.2.2 Model specification and variable definitions

To test the associations of alternative ownership concentration and audit committee effectiveness with accounting conservatism, I employ the following OLS regression model:

$$\begin{aligned}
 NI_{it} = & \beta_0 + \beta_1 NRD_{it} + \beta_2 OWN_{i,t-1} + \beta_3 ACE_{it} + \beta_4 MTB_{i,t-1} + \beta_5 LEV_{i,t-1} \\
 & + \beta_6 SIZE_{i,t-1} + \beta_7 NRD_{it} * OWN_{i,t-1} + \beta_8 NRD_{it} * ACE_{it} + \beta_9 NRD_{it} * MTB_{i,t-1} \\
 & + \beta_{10} NRD_{it} * LEV_{i,t-1} + \beta_{11} NRD_{it} * SIZE_{i,t-1} + \beta_{12} R_{it} + \beta_{13} R_{it} * OWN_{i,t-1} \\
 & + \beta_{14} R_{it} * ACE_{it} + \beta_{15} R_{it} * MTB_{i,t-1} + \beta_{16} R_{it} * LEV_{i,t-1} + \beta_{17} R_{it} * SIZE_{i,t-1} \\
 & + \beta_{18} R_{it} * NRD_{it} + \beta_{19} R_{it} * NRD_{it} * OWN_{i,t-1} + \beta_{20} R_{it} * NRD_{it} * ACE_{it} \\
 & + \beta_{21} R_{it} * NRD_{it} * MTB_{i,t-1} + \beta_{22} R_{it} * NRD_{it} * LEV_{i,t-1} \\
 & + \beta_{23} R_{it} * NRD_{it} * SIZE_{i,t-1} + \varepsilon_{it}
 \end{aligned} \tag{14}$$

where  $NI_{it}$  is firm  $i$ 's net income before extraordinary items divided by total assets at the beginning of year  $t$ ;  $R_{it}$  is firm  $i$ 's buy-and-hold return over year  $t$ ;  $NRD_{it}$  equals 1 if  $R_{it}$  is negative, 0 otherwise;  $OWN_{i,t-1}$  is firm  $i$ 's ownership concentration at the beginning of year  $t$  ( $TOP3$  or  $TOP5$ );  $ACE_{it}$  is firm  $i$ 's level of audit committee effectiveness in year  $t$ , measured as a composite of four dummy variables for each of four characteristics of the firm's audit committee: ratio of accounting financial expertise, size, average number of outside audit committee positions held, and average tenure. Each dummy variable takes on a value of one if the value of the corresponding audit committee characteristic is above the sample median and zero otherwise;  $MTB_{i,t-1}$  is firm  $i$ 's market-to-book ratio, measured as the ratio of market value of equity to book value of equity at the beginning of year  $t$ ;  $LEV_{i,t-1}$  is firm  $i$ 's leverage, measured as the ratio of total debt to total assets at the beginning of year  $t$ ; and  $SIZE_{i,t-1}$  is firm  $i$ 's size, measured as the natural log of total assets at the beginning of year  $t$ .

To test the associations of alternative ownership concentration and audit committee effectiveness with accruals-based earnings quality, I employ the following two OLS regression models:

$$\begin{aligned}
EarningsQuality_{it} = & \beta_0 + \beta_1 OWN_{i,t-1} + \beta_2 ACE_{it} + \beta_3 MTB_{i,t-1} + \beta_4 SGRWTH_{it} \\
& + \beta_5 ROA_{it} + \beta_6 CFO_{it} + \beta_7 VOL_{it} + \beta_8 LOPC_{it} + \beta_9 LEV_{i,t-1} \\
& + \beta_{10} SIZE_{i,t-1} + \beta_{11} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_t + \varepsilon_{it} \quad (15)
\end{aligned}$$

where  $EarningsQuality_{it}$  is earnings quality measure for firm  $i$  in year  $t$  ( $ABSAA\_DD_{it}$ ,  $ABSAA\_JI_{it}$ ,  $ABSAA\_MJI_{it}$ ,  $ABSAA\_J2_{it}$ , or  $ABSAA\_MJ2_{it}$ );  $OWN_{i,t-1}$  is firm  $i$ 's ownership concentration at the beginning of year  $t$  ( $TOP3$  or  $TOP5$ );  $ACE_{it}$  is firm  $i$ 's level of audit committee effectiveness in year  $t$ , measured as a composite of four dummy variables for each of four characteristics of the firm's audit committee: ratio of accounting financial expertise, size, average number of outside audit committee positions held, and average tenure. Each dummy variable takes on a value of one if the value of the corresponding audit committee characteristic is above the sample median and zero otherwise;  $MTB_{t-1}$  is firm  $i$ 's market-to-book ratio, measured as the ratio of market value of equity to book value of equity at the beginning of year  $t$ ;  $SGRWTH_{it}$  is firm  $i$ 's sales growth in year  $t$ , measured as the change in sales between year  $t$  and year  $t-1$  divided by sales in year  $t-1$ ;  $ROA_{it}$  is firm  $i$ 's return on assets in year  $t$ , measured as the ratio of year  $t$  net income before extraordinary items to year  $t-1$  total assets;  $CFO_{it}$  is firm  $i$ 's total cash flow from operations in year  $t$  taken from the statement of cash flows;  $VOL_{it}$  is firm  $i$ 's volatility in year  $t$ , measured as the standard deviation of monthly stock returns over the previous 12 months;  $LOPC_{it}$  is firm  $i$ 's length of operating cycle in year  $t$  [calculated as:  $360/(Sales/Average\ accounts\ receivable) + 360/(Cost\ of\ goods\ sold/Average\ inventory)$ ];  $LEV_{t-1}$  is firm  $i$ 's leverage, measured as the ratio of total debt to total assets at the

beginning of year  $t$ ; and  $SIZE_{i,t-1}$  is firm  $i$ 's size, measured as the natural log of total assets at the beginning of year  $t$ ; and  $F\_AGE_{it}$  is firm  $i$ 's age in year  $t$ , measured as the natural log of number of years since the firm's inception;  $Industry_{it}$  are industry dummies based on industry classification by the Stock Exchange of Thailand, equal to 1 if firm  $i$  is from that industry group, 0 otherwise;  $Year_{it}$  are year dummies.

$$\begin{aligned}
 SignedAbnAccruals_{it} = & \beta_0 + \beta_1 OWN_{i,t-1} + \beta_2 ACE_{it} + \beta_3 MTB_{i,t-1} + \beta_4 SGRWTH_{it} \\
 & + \beta_5 ROA_{it} + \beta_6 CFO_{it} + \beta_7 VOL_{it} + \beta_8 LOPC_{it} + \beta_9 LEV_{i,t-1} \\
 & + \beta_{10} SIZE_{i,t-1} + \beta_{11} F\_AGE_{it} + \sum \gamma Industry_{it} + \sum \delta Year_{it} \\
 & + \varepsilon_{it}
 \end{aligned} \tag{16}$$

where  $SignedAbnAccruals_{it}$  is signed abnormal accruals for firm  $i$  in year  $t$  ( $AA\_DD_{it}$ ,  $AA\_J1_{it}$ ,  $AA\_MJ1_{it}$ ,  $AA\_J2_{it}$ , or  $AA\_MJ2_{it}$ ); and all other variables are as previously defined.

### 5.2.3 Ownership concentration, audit committee effectiveness, and accounting conservatism

Table 19 presents the results of the regression of equation (14). The left panel of Table 19 is the results for the top three shareholders and the right panel for the top five shareholders. The results show that the coefficients on  $R*NRD*TOP3$  and  $R*NRD*TOP5$  are negative and significant, suggesting that ownership concentration is negatively related to accounting conservatism. These results are consistent with the results for the controlling shareholder dummy variable shown in Table 8. The coefficient on  $R*NRD*ACE$

Table 20 presents the results on the associations of ownership concentration and audit committee effectiveness with the measures of accruals-based earnings quality from the regression of equation (15). Panel A of Table 20 reports the results of the regression

using *TOP3* as an independent variable and Panel B of Table 20 reports the regression using *TOP5*. The coefficients on *TOP3* and *TOP5* are insignificant, suggesting that ownership concentration is not associated with accruals-based measure of earnings quality. These results are similar to the results for controlling dummy variable as a dependent variable presented in Panel A Table 11. The coefficient on *ACE* is also insignificant in both Panels A and B of Table 20.

Table 21 reports the results of the regressions of equation (16) for subsamples of positive only and negative only abnormal accruals. Panels A and C of Table 21 report the results for positive abnormal accruals only of top three and five shareholders, respectively, while Panels B and D for negative abnormal accruals only. The coefficients on *TOP3* and *TOP5* are not significant in Panels A and C of Table 21 for positive abnormal accruals only. For negative abnormal accruals only, Panel B of Table 21 shows that the coefficient on *TOP3* is positive and significant in four models. Panel D of Table 21 shows similar results for *TOP5*. These results indicate that ownership concentration is negatively related to income-decreasing abnormal accruals.

With respect to audit committee effectiveness variable, *ACE* is significantly positively related to *AA\_J1* in Panel A of Table 21 for positive abnormal accruals only. For negative abnormal accruals only, *ACE* is significantly negatively related to *AA\_MJ2* in both Panels B and D of Table 21. Similar to the results reported in Table 14, the results in Table 21 provide some weak evidence that audit committee effectiveness is not associated with mitigating income increasing or decreasing abnormal accruals.

Overall, the above analyses shows that using an alternative measure of ownership concentration deriving from immediate ownership provides similar results as using the

measure deriving from ultimate ownership. The reason could be that the use of pyramiding to separate voting rights from cash-flow rights is not prevalent in Thailand, as suggested by Claessens et al. (2002). This finding by no means suggests that one should simply use immediate ownership in all cases, as the use of ultimate ownership is theoretically more appropriate and would provide researchers with better understanding of how firms are owned and controlled through layers of affiliated firms.

## **Chapter 6: Conclusion**

In this study, I investigate whether firms with a controlling shareholder are associated with earnings quality, and whether high quality audit committees are associated with earnings quality. I test the hypotheses using a unique data set of Thai listed firms on voting rights of controlling shareholders and audit committee characteristics collected for 2005. I use Basu's (1997) asymmetric timeliness measure of accounting conservatism and absolute abnormal accruals from the Dechow and Dichev (2002) and the Jones (1991) models and its three variations as proxies for earnings quality. I also create a composite measure of audit committee effectiveness using four audit committee characteristics to capture the strength of each firm's audit committee. These four audit committee characteristics are size, ratio of members with accounting financial expertise, average tenure of members, and average number of members' outside audit committee position held.

For the association between controlling shareholders and accounting conservatism, the study provides evidence that firms with a controlling shareholder are associated with less conservative accounting earnings. Further examination suggests that family- and the government-controlled firms and firms whose controlling shareholders hold voting rights below 75%, in particular, are associated with less conservative accounting earnings. These findings are consistent with both the entrenchment effect of concentrated ownership argument and the argument that insider networks replace the need for quality financial reporting. Further analysis shows that firms with a controlling shareholder are associated with better performance than firms with no controlling shareholder. This further analysis provides some support for the argument of low demand for quality

financial reporting in explaining the negative relation between controlling shareholders and accounting conservatism.

For the association between controlling shareholders and absolute abnormal accruals, the analysis suggests that firms with a controlling shareholder are associated with lower absolute abnormal accruals. Further analysis suggests that, similar to the results for the analysis using accounting conservatism measure, firms with family and the government controlling shareholders and firms whose controlling shareholders have voting rights below 75% are associated with lower absolute abnormal accruals. An additional analysis of signed abnormal accruals shows that the association between controlling shareholders and absolute abnormal accruals are primarily driven by the negative association of firms with a controlling shareholder with negative or income-decreasing abnormal accruals. These findings, in contrast to those for the analysis using accounting conservatism, are consistent with both the incentive alignment of concentrated ownership argument and the argument that outside investors demand high quality financial reporting to protect their interests. Given that absolute abnormal accruals are used as a proxy for earnings management, the analysis seems to suggest that firms with a controlling shareholder are less involved in earnings management, especially income-decreasing earnings management such as taking a big bath on earnings and cookie-jar accounting, than firms with no controlling shareholder.

A closer examination of the associations of controlling shareholders with accounting conservatism and with absolute abnormal accruals, however, suggests that the lower absolute abnormal accruals for firms with a controlling shareholder is not the result of these firms' less involvement in earnings management. Rather, the lower absolute

abnormal accruals for firms with a controlling shareholder are largely because these firms are less timely in recognizing losses than firms with no controlling shareholder.

For the association between audit committee effectiveness and earnings quality, this study suggests that there is no systematic difference in earning quality between firms whose audit committees possess stronger and weaker governance characteristics. This finding is inconsistent with some prior studies on the relation between audit committee effectiveness and earnings quality. This finding, thus, also raises questions on whether the same corporate governance mechanisms will be effective across countries with different institutional contexts, and whether policy recommendations on corporate governance based on best practice guidelines from countries with dispersed ownership such the U. S. are always appropriate for countries with concentrated ownership.

This study has several limitations that require mention. First, this study focuses on one country. While this focus allows for more accurate and comprehensive data on ultimate ownership and audit committee characteristics than for some prior cross-country studies, it may limit generalizability of the study. Second, the data on ultimate ownership and audit committee characteristics is collected for 2005 only due to the time required in the data collection process. Although, based on prior studies, this corporate governance data tends to be sticky, this study could be extended to include the data specific for each year. Third, only voting rights of controlling shareholders are examined in this study. An addition of cash-flow rights to the study could provide further insight into how the divergence between voting rights and cash-flow rights could affect earnings quality among sample firms. Fourth, measures of earnings quality used in this study, accounting conservatism and abnormal accruals, are only two of several measures proposed in prior



studies. While these two measures are widely used in prior research, additional measures of earnings quality could also be used. Finally, the composite measure of audit committee effectiveness is constructed based on four audit committee characteristics. These characteristics, while chosen based on prior literature, are not comprehensive and may not capture all the dimensions of an effective audit committee.

Several limitations discussed above provide some opportunities for future research. First, the data collection could be extended to cover ultimate ownership and audit committee characteristics for each year, and to cover cash-flow rights of controlling shareholders. Second, additional measures of earnings quality proposed in prior literature such as earnings persistence and smoothness could be examined to provide further insight. Finally, more comprehensive audit committee characteristics could be used to construct a measure of audit committee effectiveness.

## Tables

**Table 1 Derivation of sample**

<i>Panel A: 2005 initial sample</i>	
Description	Sample size
Firms listed on the Stock Exchange of Thailand (SET)'s main market at the end of 2005	468
Firms excluded from the sample:	
Financial firms	(63)
Firms whose stock trading was suspended for most of or the entire 2005	
and/or firms under bankruptcy proceedings during 2005	(52)
Firms listed during 2005	(36)
Firms with fiscal year-end other than 31 December	(19)
Final 2005 initial sample	298
<i>Panel B: Full sample (2005-2007)</i>	
Description	Sample size
Potential firm-years 2005-2007 (final 2005 initial sample x 3)	894
Firm-years excluded from the sample:	
Firms delisted from the SET in 2006 (1 firm)	(2)
Firms delisted from the SET in 2007 (5 firms)	(5)
Firms whose stock trading was suspended for most of 2007	(4)
Final full sample (2005-2007)	883
<i>Panel C: Sample size for accruals analysis using the Dechow-Dichev (2002) model</i>	
Description	Sample size
Final full sample 2005-07	883
Less firm-years with no required cash flow from operations at time $t+1$ data (mainly due to delisting during 2006 and 2008)	(10)
Final sample for analyses using the Dechow-Dichev (2002) model	873

**Table 2 Sample distribution by industry and sector as classified by the Stock Exchange of Thailand**

Industry	Sector	For analyses using the Dechow-Dichev (2002) model				For all other analyses			
		2005	2006	2007	2005-07	2005	2006	2007	2005-07
		<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
Agro and Food Industry	Agribusiness	18	18	17	53	18	18	18	54
Agro and Food Industry	Food and Beverage	21	21	21	63	21	21	21	63
Consumer Products	Fashion	21	20	20	61	21	21	20	62
Consumer Products	Home and Office Products	7	8	7	22	7	8	7	22
Consumer Products	Personal Products and Pharmaceuticals	4	4	4	12	4	4	4	12
Industrials	Automotive	10	10	10	30	10	10	10	30
Industrials	Machinery and Equipment	1	-	-	1	1	-	-	1
Industrials	Industrial Materials and Machinery	-	11	11	22	-	11	11	22
Industrials	Packaging	13	12	12	37	13	12	12	37
Industrials	Paper and Printing Materials	3	3	2	8	3	3	3	9
Industrials	Petrochemicals and Chemicals	11	9	9	29	11	10	9	30
Property and Construction	Construction Materials	26	21	21	68	26	21	21	68
Property and Construction	Property Development	37	38	37	112	37	38	37	112
Resources	Energy and Utilities	14	14	13	41	14	14	14	42
Resources	Mining	1	1	1	3	1	1	1	3

Table 2 (continued)

Industry	Sector	For analyses using the Dechow-Dichev (2002) model				For all other analyses			
		2005	2006	2007	2005-07	2005	2006	2007	2005-07
		<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
Services	Commerce	10	14	13	37	10	14	13	37
Services	Health Care Services	13	13	13	39	13	13	13	39
Services	Media and Publishing	16	24	22	62	17	24	23	64
Services	Printing and Publishing	8	-	-	8	8	-	-	8
Services	Professional Services	4	2	2	8	4	2	2	8
Services	Tourism and Leisure	11	12	11	34	11	13	11	35
Services	Transportation and Logistics	10	10	10	30	10	10	10	30
Technology	Electrical Products and Computer	13	-	-	13	13	-	-	13
Technology	Electronic Components	9	9	8	26	9	9	9	27
Technology	Information and Communication Technology	16	19	19	54	16	20	19	55
Total number of observations		297	293	283	873	298	297	288	883

**Table 3 2005 initial sample composition and information on voting rights of controlling shareholders**

<i>Panel A: 2005 sample composition and summary statistics of voting rights</i>							
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	% of voting rights		
					mean	min	max
Total firms			298	100.00			
Firms with no controlling shareholder			52	17.45			
Firms with a controlling shareholder			246	82.55	49.58	25.07	90.83
Composition by type of controlling shareholder:							
Families/individuals			188	63.09	50.58	25.07	90.83
Founding families	169	89.89			50.97	25.07	87.40
CEO is a family member	128	68.09			51.31	25.07	90.83
Chairman is a family member	110	58.51			51.98	25.07	87.40
Government			17	5.70	42.41	25.41	77.28
Widely-held corporations/financial institutions			8	2.68	38.89	25.30	63.40
Foreign investors			33	11.07	50.14	25.10	85.70

Table 3 (continued)

*Panel B: Level of voting rights by type of controlling shareholder*

	Level of voting rights (VR)					
	25% < VR ≤ 50%		50% < VR < 75%		VR ≥ 75%	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Families/individuals	95	71.97	79	84.04	14	70.00
Government	12	9.09	4	4.26	1	5.00
Widely-held corporations/financial institutions	5	3.79	3	3.19	0	0.00
Foreign investors	20	15.15	8	8.51	5	25.00
Total	132	100.00	94	100.00	20	100.00

**Table 4 Summary statistics of variables used in the study**

<i>Panel A: Summary statistics of variables used in accounting conservatism analysis (obs.=883)</i>							
	Mean	Median	Std. Dev.	10th %	25th %	75th%	90th %
Controlling shareholder and audit committee variables:							
<i>CS</i>	0.824	1	0.381	0	1	1	1
<i>FAMILY</i>	0.629	1	0.483	0	0	1	1
<i>WHLD</i>	0.027	0	0.163	0	0	0	0
<i>GOVT</i>	0.057	0	0.231	0	0	0	0
<i>FRGN</i>	0.112	0	0.316	0	0	0	1
<i>VR25_50</i>	0.442	0	0.497	0	0	1	1
<i>VR50_75</i>	0.317	0	0.466	0	0	1	1
<i>VR75</i>	0.066	0	0.248	0	0	0	0
<i>ACE</i>	1.418	1	0.856	0	1	2	2
Financial variables:							
<i>NI</i>	0.052	0.055	0.091	-0.044	0.013	0.099	0.147
<i>R</i>	0.091	0.030	0.440	-0.377	-0.182	0.260	0.612
<i>NRD</i>	0.458	0	0.498	0	0	1	1
<i>MTB</i>	1.449	1.100	1.089	0.485	0.700	1.867	2.975
<i>LEV</i>	0.260	0.256	0.200	0.000	0.077	0.415	0.533
<i>SIZE</i>	8.094	7.848	1.321	6.555	7.125	8.888	9.937
<i>Panel B: Summary statistics of variables used in analyses using the Dechow-Dichev (2002) model (obs.=873)</i>							
	Mean	Median	Std. Dev.	10th %	25th %	75th%	90th %
Controlling shareholder and audit committee effectiveness variables:							
<i>CS</i>	0.825	1	0.380	0	1	1	1
<i>FAMILY</i>	0.629	1	0.483	0	0	1	1
<i>WHLD</i>	0.027	0	0.164	0	0	0	0
<i>GOVT</i>	0.056	0	0.230	0	0	0	0
<i>FRGN</i>	0.112	0	0.316	0	0	0	1
<i>VR25-50</i>	0.442	0	0.497	0	0	1	1
<i>VR50-75</i>	0.318	0	0.466	0	0	1	1
<i>VR• 75</i>	0.064	0	0.245	0	0	0	0
<i>ACE</i>	1.420	1	0.857	0	1	2	2

Table 4 (continued)

	Mean	Median	Std. Dev.	10th %	25th %	75th%	90th %
<i>Unsigned (absolute value) and signed abnormal accruals variables:</i>							
<i>ABSAA_DD</i>	0.041	0.030	0.041	0.006	0.013	0.055	0.088
<i>AA_DD</i>	0.000	0.000	0.056	-0.063	-0.029	0.030	0.061
<i>Financial variables:</i>							
<i>MTB</i>	1.443	1.084	1.084	0.483	0.698	1.866	2.974
<i>SGRWTH</i>	0.102	0.073	0.328	-0.209	-0.036	0.181	0.373
<i>ROA</i>	0.052	0.055	0.090	-0.043	0.013	0.099	0.147
<i>CFO</i>	0.090	0.092	0.114	-0.048	0.028	0.153	0.231
<i>VOL</i>	0.099	0.082	0.073	0.040	0.056	0.117	0.169
<i>LOPC</i>	4.874	4.887	1.014	3.681	4.368	5.269	6.195
<i>LEV</i>	0.260	0.255	0.200	0.000	0.076	0.414	0.533
<i>SIZE</i>	8.085	7.836	1.320	6.545	7.102	8.877	9.933
<i>F_AGE</i>	3.171	3.201	0.480	2.528	2.900	3.488	3.736
<i>Panel C: Summary statistics of variables used in analyses using discretionary accruals models (in addition to those reported in Panel A) (obs.=883)</i>							
	Mean	Median	Std. Dev.	10th %	25th %	75th%	90th %
<i>Absolute value of discretionary or abnormal accruals variables:</i>							
<i>ABSAA_J1</i>	0.065	0.047	0.062	0.008	0.022	0.086	0.148
<i>ABSAA_MJ1</i>	0.067	0.047	0.067	0.008	0.022	0.085	0.155
<i>ABSAA_J2</i>	0.060	0.045	0.055	0.008	0.019	0.080	0.136
<i>ABSAA_MJ2</i>	0.059	0.045	0.055	0.008	0.020	0.079	0.135
<i>Signed discretionary or abnormal accruals variables:</i>							
<i>AA_J1</i>	0.000	0.001	0.087	-0.093	-0.045	0.048	0.102
<i>AA_MJ1</i>	0.000	-0.001	0.091	-0.090	-0.046	0.048	0.104
<i>AA_J2</i>	-0.002	-0.003	0.078	-0.089	-0.049	0.043	0.097
<i>AA_MJ2</i>	-0.002	-0.003	0.079	-0.089	-0.047	0.043	0.098
<i>Financial variables:</i>							
<i>SGRWTH</i>	0.100	0.071	0.328	-0.209	-0.037	0.180	0.369
<i>ROA</i>	0.052	0.055	0.091	-0.044	0.013	0.099	0.147
<i>CFO</i>	0.091	0.092	0.114	-0.048	0.028	0.153	0.231
<i>VOL</i>	0.099	0.083	0.073	0.040	0.056	0.118	0.169
<i>LOPC</i>	4.871	4.878	1.015	3.681	4.351	5.268	6.195
<i>F_AGE</i>	3.168	3.200	0.481	2.528	2.899	3.484	3.734



**Table 5 Pearson/Spearman Correlation Matrix**

*Panel A: Pearson (top) and Spearman (bottom) correlations among variables used in accounting conservatism analysis*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) <i>CS</i>		<b>0.600</b>	<b>0.077</b>	<b>0.113</b>	<b>0.164</b>	<b>0.410</b>	<b>0.314</b>	<b>0.122</b>	<b>0.107</b>	<b>0.130</b>	-0.042	0.017	<b>0.108</b>	-0.059	0.019
(2) <i>FAMILY</i>	<b>0.600</b>		<b>-0.217</b>	<b>-0.319</b>	<b>-0.462</b>	<b>0.165</b>	<b>0.297</b>	0.034	<b>0.140</b>	0.002	-0.066	<b>0.080</b>	<b>0.070</b>	-0.044	<b>-0.161</b>
(3) <i>WHLD</i>	<b>0.077</b>	<b>-0.217</b>		-0.041	-0.059	0.062	0.021	-0.044	<b>-0.082</b>	0.024	0.005	-0.028	0.037	-0.008	-0.034
(4) <i>GOVT</i>	<b>0.113</b>	<b>-0.319</b>	-0.041		<b>-0.087</b>	<b>0.127</b>	-0.041	-0.006	-0.040	<b>0.130</b>	0.042	<b>-0.078</b>	<b>0.081</b>	0.033	<b>0.295</b>
(5) <i>FRGN</i>	<b>0.164</b>	<b>-0.462</b>	-0.059	<b>-0.087</b>		<b>0.118</b>	-0.057	<b>0.123</b>	-0.014	0.046	0.017	-0.031	-0.055	-0.023	<b>0.072</b>
(6) <i>VR25_50</i>	<b>0.410</b>	<b>0.165</b>	0.062	<b>0.127</b>	<b>0.118</b>		<b>-0.606</b>	<b>-0.236</b>	0.051	0.048	-0.056	0.021	<b>0.115</b>	0.053	<b>0.116</b>
(7) <i>VR50_75</i>	<b>0.314</b>	<b>0.297</b>	0.021	-0.041	-0.057	<b>-0.606</b>		<b>-0.181</b>	0.000	0.046	0.005	0.009	-0.007	<b>-0.082</b>	<b>-0.090</b>
(8) <i>VR75</i>	<b>0.122</b>	0.034	-0.044	-0.006	<b>0.123</b>	<b>-0.236</b>	<b>-0.181</b>		0.063	0.018	0.039	-0.033	-0.051	-0.041	-0.033
(9) <i>ACE</i>	<b>0.109</b>	<b>0.136</b>	<b>-0.077</b>	-0.031	-0.013	0.049	0.003	0.065		0.065	-0.005	-0.058	0.029	0.041	<b>0.181</b>
(10) <i>NI</i>	0.065	-0.065	0.018	<b>0.164</b>	0.049	0.029	0.022	0.000	0.064		<b>0.355</b>	<b>-0.394</b>	<b>0.312</b>	<b>-0.271</b>	<b>0.109</b>
(11) <i>R</i>	-0.022	<b>-0.072</b>	0.010	0.048	0.044	-0.035	-0.003	0.041	0.047	<b>0.499</b>		<b>-0.692</b>	-0.042	-0.039	0.008
(12) <i>NRD</i>	0.017	<b>0.080</b>	-0.028	<b>-0.078</b>	-0.031	0.021	0.009	-0.033	-0.059	<b>-0.464</b>	<b>-0.863</b>		-0.030	<b>0.116</b>	-0.043
(13) <i>MTB</i>	<b>0.096</b>	0.019	0.014	<b>0.113</b>	-0.005	<b>0.100</b>	0.001	-0.057	0.053	<b>0.460</b>	0.029	<b>-0.067</b>		0.021	<b>0.233</b>
(14) <i>LEV</i>	-0.065	-0.057	-0.010	0.046	-0.019	0.064	<b>-0.092</b>	-0.055	0.027	<b>-0.318</b>	<b>-0.106</b>	<b>0.116</b>	0.002		<b>0.306</b>
(15) <i>SIZE</i>	0.002	<b>-0.155</b>	-0.028	<b>0.211</b>	<b>0.099</b>	<b>0.101</b>	<b>-0.095</b>	-0.021	<b>0.181</b>	<b>0.091</b>	0.043	-0.028	<b>0.250</b>	<b>0.335</b>	

Table 5 (continued)

*Panel B: Pearson (top) and Spearman (bottom) correlations among variables used in analyses using the Dechow-Dichev (2002) accruals model*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) <i>CS</i>		<b>0.600</b>	<b>0.078</b>	<b>0.112</b>	<b>0.164</b>	<b>0.410</b>	<b>0.315</b>	<b>0.121</b>	<b>0.107</b>	<b>-0.082</b>	<b>0.107</b>	-0.010	<b>0.120</b>	<b>0.115</b>	<b>-0.105</b>	-0.034	-0.053	0.024	0.056
(2) <i>FAMILY</i>	<b>0.600</b>		<b>-0.219</b>	<b>-0.317</b>	<b>-0.463</b>	<b>0.168</b>	<b>0.296</b>	0.027	<b>0.142</b>	-0.060	0.066	-0.064	-0.010	0.045	-0.008	-0.020	-0.036	<b>-0.156</b>	0.054
(3) <i>WHLD</i>	<b>0.078</b>	<b>-0.219</b>		-0.041	-0.060	0.062	0.020	-0.044	<b>-0.083</b>	0.009	0.039	0.038	0.024	-0.056	0.015	0.019	-0.008	-0.034	-0.056
(4) <i>GOVT</i>	<b>0.112</b>	<b>-0.317</b>	-0.041		<b>-0.087</b>	<b>0.124</b>	-0.039	-0.003	-0.038	-0.016	<b>0.084</b>	0.052	<b>0.130</b>	<b>0.090</b>	-0.050	-0.027	0.027	<b>0.291</b>	-0.063
(5) <i>FRGN</i>	<b>0.164</b>	<b>-0.463</b>	-0.060	<b>-0.087</b>		<b>0.115</b>	-0.056	<b>0.129</b>	-0.018	0.000	-0.053	0.029	0.053	0.034	<b>-0.085</b>	0.000	-0.025	<b>0.072</b>	0.060
(6) <i>VR25_50</i>	<b>0.410</b>	<b>0.168</b>	0.062	<b>0.124</b>	<b>0.115</b>		<b>-0.609</b>	<b>-0.233</b>	0.050	0.043	<b>0.112</b>	0.008	0.048	0.057	-0.044	0.013	0.051	<b>0.112</b>	-0.026
(7) <i>VR50_75</i>	<b>0.315</b>	<b>0.296</b>	0.021	-0.039	-0.056	<b>-0.609</b>		<b>-0.179</b>	-0.003	<b>-0.111</b>	-0.001	-0.007	0.045	0.046	-0.029	-0.027	<b>-0.080</b>	<b>-0.086</b>	0.040
(8) <i>VR75</i>	<b>0.121</b>	0.027	-0.044	-0.003	<b>0.129</b>	<b>-0.233</b>	<b>-0.179</b>		<b>0.068</b>	-0.004	-0.058	-0.019	0.001	-0.024	-0.020	-0.028	-0.032	-0.026	0.063
(9) <i>ACE</i>	<b>0.108</b>	<b>0.137</b>	<b>-0.078</b>	-0.029	-0.017	0.048	0.000	<b>0.070</b>		-0.055	0.037	<b>-0.069</b>	0.065	<b>0.075</b>	<b>-0.117</b>	<b>-0.069</b>	0.043	<b>0.185</b>	<b>0.104</b>
(10) <i>ABSAA_DD</i>	-0.033	-0.050	0.008	0.017	0.021	0.056	<b>-0.098</b>	0.021	-0.032		0.027	0.043	<b>-0.178</b>	-0.029	<b>0.201</b>	<b>0.212</b>	0.002	-0.056	<b>-0.087</b>
(11) <i>MTB</i>	<b>0.096</b>	0.018	0.016	<b>0.113</b>	-0.003	<b>0.099</b>	0.008	<b>-0.067</b>	0.058	-0.025		<b>0.125</b>	<b>0.316</b>	<b>0.287</b>	-0.024	<b>-0.216</b>	0.025	<b>0.234</b>	<b>-0.133</b>
(12) <i>SGRWTH</i>	0.002	-0.060	0.025	<b>0.069</b>	0.031	0.012	0.002	-0.026	-0.041	-0.032	<b>0.172</b>		<b>0.245</b>	0.028	-0.008	<b>-0.126</b>	<b>0.079</b>	<b>0.069</b>	<b>-0.071</b>
(13) <i>ROA</i>	0.058	<b>-0.075</b>	0.019	<b>0.161</b>	0.057	0.029	0.023	-0.013	<b>0.067</b>	<b>-0.119</b>	<b>0.460</b>	<b>0.316</b>		<b>0.551</b>	<b>-0.296</b>	<b>-0.233</b>	<b>-0.267</b>	<b>0.115</b>	0.044
(14) <i>CFO</i>	<b>0.108</b>	0.005	-0.039	<b>0.114</b>	0.059	0.059	0.044	-0.035	<b>0.072</b>	-0.057	<b>0.300</b>	0.062	<b>0.567</b>		<b>-0.203</b>	<b>-0.303</b>	<b>-0.241</b>	0.055	0.050
(15) <i>VOL</i>	<b>-0.084</b>	0.002	0.033	-0.050	<b>-0.086</b>	-0.018	-0.012	<b>-0.070</b>	<b>-0.112</b>	<b>0.167</b>	<b>-0.090</b>	0.015	<b>-0.258</b>	<b>-0.180</b>		<b>0.141</b>	<b>0.219</b>	<b>-0.122</b>	<b>-0.130</b>
(16) <i>LOPC</i>	-0.056	-0.011	0.006	<b>-0.067</b>	-0.004	-0.026	-0.003	-0.030	<b>-0.087</b>	<b>0.266</b>	<b>-0.274</b>	<b>-0.220</b>	<b>-0.289</b>	<b>-0.306</b>	<b>0.169</b>		<b>0.093</b>	-0.040	-0.050
(17) <i>LEV</i>	-0.059	-0.049	-0.010	0.041	-0.021	0.062	<b>-0.090</b>	-0.047	0.030	0.009	0.001	<b>0.097</b>	<b>-0.315</b>	<b>-0.251</b>	<b>0.246</b>	<b>0.106</b>		<b>0.301</b>	<b>-0.125</b>
(18) <i>SIZE</i>	0.007	<b>-0.149</b>	-0.027	<b>0.207</b>	<b>0.099</b>	<b>0.097</b>	<b>-0.091</b>	-0.013	<b>0.185</b>	-0.032	<b>0.248</b>	<b>0.132</b>	<b>0.095</b>	0.026	-0.039	-0.034	<b>0.330</b>		<b>-0.096</b>
(19) <i>F_AGE</i>	0.049	0.046	-0.061	-0.023	0.037	-0.034	0.043	0.061	<b>0.111</b>	<b>-0.082</b>	<b>-0.174</b>	<b>-0.081</b>	-0.003	0.029	<b>-0.169</b>	-0.023	<b>-0.159</b>	<b>-0.126</b>	

Table 5 (continued)

*Panel C: Pearson (top) and Spearman (bottom) correlations among variables used in analyses using discretionary accruals models*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1) CS		<b>0.600</b>	<b>0.077</b>	<b>0.113</b>	<b>0.164</b>	<b>0.410</b>	<b>0.314</b>	<b>0.122</b>	<b>0.107</b>	<b>-0.084</b>	<b>-0.081</b>	-0.060	-0.055	<b>0.108</b>	-0.011	<b>0.129</b>	<b>0.118</b>	<b>-0.107</b>	-0.032	-0.059	0.019	0.064
(2) FAMILY	<b>0.600</b>		<b>-0.217</b>	<b>-0.319</b>	<b>-0.462</b>	<b>0.165</b>	<b>0.297</b>	0.034	<b>0.140</b>	-0.066	-0.066	-0.041	-0.045	<b>0.070</b>	<b>-0.067</b>	0.001	0.046	-0.013	-0.017	-0.044	<b>-0.161</b>	0.061
(3) WHLD	<b>0.077</b>	<b>-0.217</b>		-0.041	-0.059	0.062	0.021	-0.044	<b>-0.082</b>	0.047	0.056	0.027	0.032	0.037	0.038	0.024	-0.056	0.015	0.019	-0.008	-0.034	-0.055
(4) GOVT	<b>0.113</b>	<b>-0.319</b>	-0.041		<b>-0.087</b>	<b>0.127</b>	-0.041	-0.006	-0.040	-0.047	-0.056	-0.055	-0.060	<b>0.081</b>	0.054	<b>0.130</b>	<b>0.089</b>	-0.051	-0.031	0.033	<b>0.295</b>	-0.064
(5) FRGN	<b>0.164</b>	<b>-0.462</b>	-0.059	<b>-0.087</b>		<b>0.118</b>	-0.057	<b>0.123</b>	-0.014	0.009	0.016	0.017	0.030	-0.055	0.030	0.046	0.036	<b>-0.080</b>	-0.000	-0.023	<b>0.072</b>	0.060
(6) VR25_50	<b>0.410</b>	<b>0.165</b>	0.062	<b>0.127</b>	<b>0.118</b>		<b>-0.606</b>	<b>-0.236</b>	0.051	0.026	0.036	0.026	0.031	<b>0.115</b>	0.007	0.048	0.057	-0.041	0.017	0.053	<b>0.116</b>	-0.023
(7) VR50_75	<b>0.314</b>	<b>0.297</b>	0.021	-0.041	-0.057	<b>-0.606</b>		<b>-0.181</b>	0.000	<b>-0.099</b>	<b>-0.107</b>	<b>-0.075</b>	<b>-0.078</b>	-0.007	-0.004	0.045	0.043	-0.031	-0.027	<b>-0.082</b>	<b>-0.090</b>	0.042
(8) VR75	<b>0.122</b>	0.034	-0.044	-0.006	<b>0.123</b>	<b>-0.236</b>	<b>-0.181</b>		0.063	0.004	0.005	-0.004	0.000	-0.051	-0.023	0.017	-0.012	-0.026	-0.032	-0.041	-0.033	0.066
(9) ACE	<b>0.109</b>	<b>0.136</b>	<b>-0.077</b>	-0.031	-0.013	0.049	0.003	0.065		-0.026	-0.026	-0.032	-0.014	0.029	<b>-0.070</b>	0.064	<b>0.072</b>	<b>-0.114</b>	-0.062	0.041	<b>0.181</b>	<b>0.105</b>
(10) ABSAA_J1	<b>-0.068</b>	<b>-0.078</b>	0.060	-0.023	0.024	0.022	<b>-0.090</b>	0.022	-0.033		<b>0.978</b>	<b>0.847</b>	<b>0.781</b>	<b>0.072</b>	-0.004	<b>-0.226</b>	<b>-0.145</b>	<b>0.174</b>	<b>0.177</b>	0.042	-0.016	<b>-0.123</b>
(11) ABSAA_MJ1	<b>-0.070</b>	<b>-0.074</b>	0.061	-0.039	0.025	0.020	<b>-0.092</b>	0.025	-0.030	<b>0.967</b>		<b>0.830</b>	<b>0.776</b>	0.060	-0.013	<b>-0.240</b>	<b>-0.144</b>	<b>0.183</b>	<b>0.186</b>	0.047	-0.010	<b>-0.117</b>
(12) ABSAA_J2	-0.049	-0.043	0.012	-0.039	0.029	0.024	<b>-0.069</b>	0.007	-0.026	<b>0.774</b>	<b>0.750</b>		<b>0.934</b>	<b>0.075</b>	0.044	<b>-0.095</b>	<b>-0.082</b>	<b>0.112</b>	<b>0.170</b>	0.017	-0.019	<b>-0.170</b>
(13) ABSAAA_MJ2	-0.046	-0.050	-0.001	-0.040	0.051	0.023	<b>-0.073</b>	0.021	0.009	<b>0.700</b>	<b>0.696</b>	<b>0.894</b>		<b>0.084</b>	0.039	<b>-0.081</b>	<b>-0.090</b>	<b>0.104</b>	<b>0.164</b>	0.009	-0.004	<b>-0.151</b>
(14) MTB	<b>0.096</b>	0.019	0.014	<b>0.113</b>	-0.005	<b>0.100</b>	0.001	-0.057	0.053	0.013	0.007	0.024	0.046		<b>0.120</b>	<b>0.315</b>	<b>0.291</b>	-0.026	<b>-0.214</b>	0.021	<b>0.233</b>	<b>-0.132</b>
(15) SGRWTH	0.003	-0.062	0.026	<b>0.074</b>	0.031	0.014	0.006	-0.034	-0.042	-0.036	-0.053	0.006	0.007	<b>0.166</b>		<b>0.239</b>	0.028	-0.009	<b>-0.130</b>	<b>0.080</b>	0.066	<b>-0.069</b>
(16) ROA	0.065	-0.065	0.018	<b>0.164</b>	0.049	0.029	0.022	0.000	0.064	<b>-0.106</b>	<b>-0.119</b>	<b>-0.072</b>	-0.061	<b>0.460</b>	<b>0.311</b>		<b>0.548</b>	<b>-0.299</b>	<b>-0.224</b>	<b>-0.273</b>	<b>0.108</b>	0.056
(17) CFO	<b>0.112</b>	0.006	-0.039	<b>0.114</b>	0.062	0.059	0.040	-0.023	<b>0.068</b>	<b>-0.142</b>	<b>-0.156</b>	<b>-0.076</b>	<b>-0.079</b>	<b>0.303</b>	0.061	<b>0.565</b>		<b>-0.203</b>	<b>-0.305</b>	<b>-0.243</b>	0.053	0.050
(18) VOL	<b>-0.089</b>	-0.005	0.033	-0.049	<b>-0.080</b>	-0.013	-0.016	<b>-0.079</b>	<b>-0.108</b>	<b>0.163</b>	<b>0.169</b>	<b>0.119</b>	<b>0.104</b>	<b>-0.089</b>	0.012	<b>-0.264</b>	<b>-0.182</b>		<b>0.142</b>	<b>0.221</b>	<b>-0.118</b>	<b>-0.132</b>
(19) LOPC	-0.054	-0.007	0.006	<b>-0.071</b>	-0.005	-0.023	-0.002	-0.033	<b>-0.079</b>	<b>0.189</b>	<b>0.203</b>	<b>0.195</b>	<b>0.180</b>	<b>-0.274</b>	<b>-0.217</b>	<b>-0.284</b>	<b>-0.308</b>	<b>0.168</b>		<b>0.091</b>	-0.038	-0.045
(20) LEV	-0.065	-0.057	-0.010	0.046	-0.019	0.064	<b>-0.092</b>	-0.055	0.027	0.055	0.046	0.037	0.019	0.002	<b>0.098</b>	<b>-0.318</b>	<b>-0.252</b>	<b>0.250</b>	<b>0.102</b>		<b>0.306</b>	<b>-0.131</b>
(21) SIZE	0.002	<b>-0.155</b>	-0.028	<b>0.211</b>	<b>0.099</b>	<b>0.101</b>	<b>-0.095</b>	-0.021	<b>0.181</b>	0.016	0.023	0.003	0.021	<b>0.250</b>	<b>0.129</b>	<b>0.091</b>	0.024	-0.031	-0.036	<b>0.335</b>		<b>-0.102</b>
(22) F_AGE	0.054	0.052	-0.060	-0.027	0.036	-0.033	0.045	0.064	<b>0.112</b>	<b>-0.148</b>	<b>-0.139</b>	<b>-0.185</b>	<b>-0.153</b>	<b>-0.176</b>	<b>-0.079</b>	0.001	0.029	<b>-0.172</b>	-0.018	<b>-0.165</b>	<b>-0.132</b>	

Bold text indicates significance at 5% level or better (two-tailed).

**Table 6 Comtemporaneous association between earnings and returns**

$$NI = \beta_0 + \beta_1 NRD + \beta_2 R + \beta_3 R * NRD + \varepsilon$$

	$\beta_0$	$\beta_1$	$\beta_2$	$\beta_3$	Adj. $R^2$	$N$
<i>Panel A: Full sample (2005-2007)</i>						
	0.082*** (13.82)	-0.022*** (-2.69)	0.006 (0.38)	0.195*** (5.23)	0.221	883
<i>Panel B: Subsample by sign of returns</i>						
Positive returns only ( $R \geq 0$ )	0.082*** (13.83)		0.006 (0.38)		-0.001	479
Negative returns only ( $R < 0$ )	0.061*** (8.18)		0.201*** (6.69)		0.160	404

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute  $t$ -statistics. All continuous variables are winsorized at 1% and 99% level.

**Table 7 Comparison of the degree of accounting conservatism between groups**

Model:  $NI = \alpha_0 + \alpha_1 NRD + \alpha_2 R + \alpha_3 R^* NRD + \dots$

*Panel A: By characteristics of controlling shareholders*

Firms with a controlling shareholder (CS)	Comparison firms	Firms with CS		Comparison firms		(c)=(a)-(b) Diff. in $\alpha_3$
		(a) $N$	$\alpha_3$	(b) $N$	$\alpha_3$	
have CS	no CS	728	0.143	155	0.321	-0.179*
family/individual	other types of CS	555	0.150	173	0.110	0.040
family/individual	no CS	555	0.150	155	0.321	-0.171
widely held corp./fin insti.	other types of CS	24	0.066	704	0.146	-0.079
widely held corp./fin insti.	no CS	24	0.066	155	0.321	-0.255**
Government	other types of CS	50	0.140	678	0.147	-0.007
Government	no CS	50	0.140	155	0.321	-0.181
foreign investor	other types of CS	99	0.163	629	0.142	0.021
foreign investor	no CS	99	0.163	155	0.321	-0.158
25% < voting rights (VR) • 50%	CS with different VR	390	0.164	338	0.116	0.049
25% < VR • 50%	no CS	390	0.164	155	0.321	-0.157

Table 7 (continued)

Firms with a controlling shareholder (CS)	Comparison firms	Firms with CS		Comparison firms		(c)=(a)-(b)
		(a)		(b)		
		<i>N</i>	• <sub>3</sub>	<i>N</i>	• <sub>3</sub>	Diff. in • <sub>3</sub>
50%<VR<75%	CS with different VR	280	0.079	448	0.185	-0.106*
50%<VR<75%	no CS	280	0.079	155	0.321	-0.243**
VR• 75%	CS with different VR	58	0.242	670	0.127	0.115
VR• 75%	no CS	58	0.242	155	0.321	-0.079
<i>Panel B: By the degree of audit committee effectiveness</i>						
		> median		• median		
		(d)		(e)		(f)=(d)-(e)
Audit committee effectiveness variable		<i>N</i>	• <sub>3</sub>	<i>N</i>	• <sub>3</sub>	Diff. in • <sub>3</sub>
Composite measure of audit committee effectiveness		437	0.181	446	0.200	-0.019

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

**Table 8 The associations of controlling shareholders and audit committee effectiveness with accounting conservatism**

<i>Panel A: Full sample (2005-2007)</i>						
Independent variable	Regression (1)		Regression (2)		Regression (3)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>NRD</i>	-0.063	-1.38	-0.048	-1.16	-0.057	-1.21
<i>CS</i>	-0.019	-1.34			-0.015	-1.08
<i>ACE</i>			-0.009	-2.00**	-0.007	-1.74*
<i>MTB</i>	0.028	5.14***	0.028	5.18***	0.028	5.25***
<i>LEV</i>	-0.098	-3.84***	-0.095	-3.71***	-0.096	-3.65***
<i>SIZE</i>	0.001	0.31	0.003	0.70	0.003	0.71
<i>NRD*CS</i>	0.009	0.41			0.006	0.25
<i>NRD*ACE</i>			0.004	0.45	0.005	0.63
<i>NRD*MTB</i>	0.008	0.80	0.010	1.03	0.007	0.78
<i>NRD*LEV</i>	-0.053	-1.32	-0.054	-1.32	-0.054	-1.33
<i>NRD*SIZE</i>	0.006	1.22	0.005	0.82	0.005	0.94
<i>R</i>	-0.051	-0.78	-0.012	-0.21	-0.032	-0.55
<i>R*CS</i>	0.051	1.37			0.044	1.26
<i>R*ACE</i>			0.031	2.47**	0.028	2.59**
<i>R*MTB</i>	0.018	1.35	0.018	1.45	0.017	1.38
<i>R*LEV</i>	-0.079	-1.25	-0.093	-1.49	-0.089	-1.34
<i>R*SIZE</i>	0.005	0.72	0.001	0.11	-0.000	-0.05
<i>R*NRD</i>	0.311	1.31	0.169	0.74	0.284	1.28
<i>R*NRD*CS</i>	-0.206	-2.06**			-0.194	-2.06**
<i>R*NRD*ACE</i>			-0.067	-1.49	-0.044	-1.22
<i>R*NRD*MTB</i>	0.038	1.17	0.043	1.36	0.039	1.21
<i>R*NRD*LEV</i>	-0.168	-1.06	-0.142	-0.87	-0.154	-0.95
<i>R*NRD*SIZE</i>	-0.000	-0.01	0.007	0.29	0.008	0.40
Intercept	0.060	1.96*	0.043	1.60	0.052	1.76*
Adjusted $R^2$	.426		.415		.429	
Observations	883		883		883	

Table 8 (continued)

<i>Panel B: Subsample (2006-2007)</i>						
Independent variable	Regression (1)		Regression (2)		Regression (3)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>NRD</i>	-0.057	-1.03	-0.062	-1.14	-0.058	-1.03
<i>CS</i>	-0.002	-0.11			0.002	0.14
<i>ACE</i>			-0.006	-1.07	-0.006	-1.14
<i>MTB</i>	0.033	4.68***	0.034	4.92***	0.034	4.95***
<i>LEV</i>	-0.104	-3.60***	-0.100	-3.21***	-0.100	-3.25***
<i>SIZE</i>	-0.000	-0.02	0.001	0.13	0.001	0.14
<i>NRD*CS</i>	-0.010	-0.46			-0.016	-0.71
<i>NRD*ACE</i>			0.011	1.04	0.015	1.58
<i>NRD*MTB</i>	0.001	0.08	0.001	0.06	-0.001	-0.07
<i>NRD*LEV</i>	-0.083	-1.77*	-0.090	-1.71*	-0.089	-1.89*
<i>NRD*SIZE</i>	0.010	1.46	0.009	1.13	0.009	1.21
<i>R</i>	-0.039	-0.46	-0.025	-0.36	-0.024	-0.32
<i>R*CS</i>	0.009	0.24			0.001	0.03
<i>R*ACE</i>			0.024	1.81*	0.024	2.08**
<i>R*MTB</i>	0.013	0.70	0.007	0.35	0.007	0.37
<i>R*LEV</i>	-0.074	-1.12	-0.100	-1.25	-0.100	-1.32
<i>R*SIZE</i>	0.010	1.01	0.007	0.69	0.007	0.69
<i>R*NRD</i>	0.445	2.13**	0.294	1.29	0.427	2.13**
<i>R*NRD*CS</i>	-0.207	-2.43**			-0.205	-2.47**
<i>R*NRD*ACE</i>			-0.033	-0.69	0.001	0.03
<i>R*NRD*MTB</i>	0.073	2.25**	0.078	2.45**	0.080	2.52**
<i>R*NRD*LEV</i>	-0.308	-1.69*	-0.287	-1.56	-0.283	-1.55
<i>R*NRD*SIZE</i>	-0.012	-0.52	-0.008	-0.30	-0.012	-0.53
Intercept	0.045	1.07	0.041	1.16	0.039	0.97
Adjusted $R^2$	.483		.471		.485	
Observations	585		585		585	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level.



**Table 9 The associations of controlling shareholders and audit committee effectiveness with accounting conservatism (by type of controlling shareholders and level of voting rights)**

<i>Panel A: Full sample (2005-2007)</i>					
By type of controlling shareholders			By level of voting rights		
Independent variable	Coef.	<i>t</i>	Independent variable	Coef.	<i>t</i>
<i>NRD</i>	-0.062	-1.27		-0.040	-0.86
<i>FAMILY</i>	-0.016	-1.06	<i>VR25_50</i>	-0.019	-1.36
<i>WHLD</i>	-0.022	-1.19	<i>VR50_75</i>	-0.016	-1.07
<i>GOVT</i>	0.004	0.27	<i>VR75</i>	0.004	0.19
<i>FRGN</i>	-0.028	-1.76*			
<i>ACE</i>	-0.008	-1.77*		-0.010	-2.40**
<i>MTB</i>	0.028	5.07***		0.029	5.41***
<i>LEV</i>	-0.097	-3.68***		-0.105	-3.99***
<i>SIZE</i>	0.001	0.25		0.004	1.17
<i>NRD*FAMILY</i>	0.001	0.05	<i>NRD*VR25_50</i>	0.019	0.84
<i>NRD*WHLD</i>	0.020	0.61	<i>NRD*VR50_75</i>	-0.005	-0.21
<i>NRD*GOVT</i>	0.017	0.55	<i>NRD*VR75</i>	-0.021	-0.64
<i>NRD*FRGN</i>	0.041	1.42			
<i>NRD*ACE</i>	0.006	0.72		0.006	0.78
<i>NRD*MTB</i>	0.009	0.88		0.006	0.67
<i>NRD*LEV</i>	-0.046	-1.13		-0.049	-1.19
<i>NRD*SIZE</i>	0.005	0.87		0.003	0.53
<i>R</i>	-0.024	-0.38		-0.009	-0.15
<i>R*FAMILY</i>	0.039	1.09	<i>R*VR25_50</i>	0.057	1.69*
<i>R*WHLD</i>	0.027	0.72	<i>R*VR50_75</i>	0.053	1.60
<i>R*GOVT</i>	0.055	1.57	<i>R*VR75</i>	-0.018	-0.35
<i>R*FRGN</i>	0.097	2.08**			
<i>R*ACE</i>	0.031	2.77***		0.036	3.80***
<i>R*MTB</i>	0.020	1.55		0.015	1.31
<i>R*LEV</i>	-0.078	-1.14		-0.059	-0.89
<i>R*SIZE</i>	-0.003	-0.35		-0.006	-0.80

Table 9 (continued)

By type of controlling shareholders			By level of voting rights		
Independent variable	Coef.	<i>t</i>	Independent variable	Coef.	<i>t</i>
<i>R*NRD</i>	0.271	1.20		0.289	1.29
<i>R*NRD*FAMILY</i>	-0.188	-1.98**	<i>R*NRD*VR25_50</i>	-0.175	-1.85*
<i>R*NRD*WHLD</i>	-0.162	-1.71*	<i>R*NRD*VR50_75</i>	-0.242	-2.41**
<i>R*NRD*GOVT</i>	-0.297	-2.62***	<i>R*NRD*VR75</i>	-0.172	-1.42
<i>R*NRD*FRGN</i>	-0.160	-1.31			
<i>R*NRD*ACE</i>	-0.057	-1.53		-0.059	-1.62
<i>R*NRD*MTB</i>	0.037	1.13		0.040	1.23
<i>R*NRD*LEV</i>	-0.161	-0.98		-0.175	-1.04
<i>R*NRD*SIZE</i>	0.013	0.57		0.011	0.50
Intercept	0.067	2.04**		0.044	1.42
Adjusted $R^2$	.434			.429	
Observations	883			883	

*Panel B: Subsample (2006-2007)*

By type of controlling shareholders			By level of voting rights		
Independent variable	Coef.	<i>t</i>	Independent variable	Coef.	<i>t</i>
<i>NRD</i>	-0.057	-0.95		-0.039	-0.69
<i>FAMILY</i>	0.003	0.17	<i>VR25_50</i>	-0.006	-0.38
<i>WHLD</i>	-0.011	-0.44	<i>VR50_75</i>	-0.002	-0.09
<i>GOVT</i>	0.019	1.11	<i>VR75</i>	0.034	1.34
<i>FRGN</i>	-0.015	-0.84			
<i>ACE</i>	-0.007	-1.29		-0.009	-1.85*
<i>MTB</i>	0.034	4.65***		0.034	5.05***
<i>LEV</i>	-0.100	-3.25***		-0.117	-3.60***
<i>SIZE</i>	-0.000	-0.09		0.004	0.78
<i>NRD*FAMILY</i>	-0.019	-0.78	<i>NRD*VR25_50</i>	0.003	0.13
<i>NRD*WHLD</i>	0.019	0.48	<i>NRD*VR50_75</i>	-0.019	-0.70
<i>NRD*GOVT</i>	-0.014	-0.37	<i>NRD*VR75</i>	-0.035	-1.07
<i>NRD*FRGN</i>	0.028	0.90			
<i>NRD*ACE</i>	0.016	1.56		0.017	1.76*

Table 9 (continued)

By type of controlling shareholders			By level of voting rights		
Independent variable	Coef.	<i>t</i>	Independent variable	Coef.	<i>t</i>
<i>NRD*MTB</i>	-0.000	-0.03		-0.001	-0.08
<i>NRD*LEV</i>	-0.085	-1.76*		-0.072	-1.45
<i>NRD*SIZE</i>	0.008	1.06		0.005	0.70
<i>R</i>	-0.017	-0.21		0.011	0.14
<i>R*FAMILY</i>	-0.005	-0.12	<i>R*VR25_50</i>	0.023	0.75
<i>R*WHLD</i>	0.000	0.01	<i>R*VR50_75</i>	0.019	0.61
<i>R*GOVT</i>	0.009	0.27	<i>R*VR75</i>	-0.076	-1.37
<i>R*FRGN</i>	0.052	1.33			
<i>R*ACE</i>	0.028	2.34**		0.034	3.25***
<i>R*MTB</i>	0.009	0.47		0.007	0.42
<i>R*LEV</i>	-0.088	-1.10		-0.038	-0.46
<i>R*SIZE</i>	0.004	0.39		-0.003	-0.29
<i>R*NRD</i>	0.446	2.15**		0.402	1.99**
<i>R*NRD*FAMILY</i>	-0.188	-2.25**	<i>R*NRD*VR25_50</i>	-0.190	-2.24**
<i>R*NRD*WHLD</i>	-0.175	-1.80*	<i>R*NRD*VR50_75</i>	-0.260	-2.68***
<i>R*NRD*GOVT</i>	-0.379	-3.20***	<i>R*NRD*VR75</i>	0.212	0.79
<i>R*NRD*FRGN</i>	-0.092	-0.61			
<i>R*NRD*ACE</i>	-0.022	-0.53		-0.019	-0.45
<i>R*NRD*MTB</i>	0.075	2.30**		0.080	2.61**
<i>R*NRD*LEV</i>	-0.323	-1.72*		-0.316	-1.62
<i>R*NRD*SIZE</i>	-0.009	-0.34		-0.005	-0.19
Intercept	0.051	1.16		0.025	0.59
Adjusted $R^2$	.488		.489		
Observations	585		585		

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level

**Table 10 The impact of controlling shareholders on the association between audit committee effectiveness and accounting conservatism**

Independent variable	Full sample (2005-2007)				Subsample (2006-2007)			
	Firms with no CS		Firms with a CS		Firms with no CS		Firms with a CS	
	Regression (1)	Regression (2)	Regression (3)	Regression (4)	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>NRD</i>	-0.125	-0.87	-0.044	-1.10	0.030	0.14	-0.095	-1.69*
<i>ACE</i>	-0.028	-2.20**	-0.003	-0.80	-0.016	-0.91	-0.006	-1.15
<i>MTB</i>	0.004	0.34	0.033	6.34***	0.002	0.15	0.043	6.81***
<i>LEV</i>	-0.087	-1.65	-0.086	-3.67***	-0.097	-1.7*	-0.088	-3.21***
<i>SIZE</i>	0.014	1.25	0.001	0.39	0.009	0.68	-0.002	-0.46
<i>NRD*ACE</i>	-0.017	-0.62	0.007	0.82	-0.001	-0.03	0.018	1.77*
<i>NRD*MTB</i>	0.082	2.39**	0.001	0.05	0.083	1.67	-0.011	-1.05
<i>NRD*LEV</i>	-0.173	-2.02**	-0.041	-1.08	-0.241	-2.68**	-0.074	-1.58
<i>NRD*SIZE</i>	0.011	0.63	0.005	0.93	-0.007	-0.24	0.012	1.66*
<i>R</i>	0.059	0.30	0.079	1.59	-0.060	-0.26	0.019	0.34
<i>R*ACE</i>	0.096	2.43**	0.017	1.72*	0.047	1.09	0.031	2.95***
<i>R*MTB</i>	0.095	3.08***	0.002	0.26	0.083	2.19**	-0.020	-1.49
<i>R*LEV</i>	0.079	0.80	-0.174	-3.98***	0.123	1.28	-0.217	-4.58***
<i>R*SIZE</i>	-0.040	-1.27	-0.001	-0.18	-0.015	-0.41	0.009	1.11

Table 10 (continued)

Independent variable	Full sample (2005-2007)				Subsample (2006-2007)			
	Firms with no CS		Firms with a CS		Firms with no CS		Firms with a CS	
	Regression (1)		Regression (2)		Regression (3)		Regression (4)	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>R*NRD</i>	-0.140	-0.26	0.037	0.30	0.598	1.02	0.121	0.73
<i>R*NRD*ACE</i>	-0.338	-2.91***	0.005	0.14	-0.155	-1.48	0.012	0.27
<i>R*NRD*MTB</i>	0.039	0.60	0.044	1.12	0.093	1.06	0.102	3.07***
<i>R*NRD*LEV</i>	-0.353	-0.89	-0.063	-0.43	-0.911	-3.11***	-0.089	-0.45
<i>R*NRD*SIZE</i>	0.112	1.70*	0.003	0.19	0.013	0.18	-0.012	-0.53
Intercept	0.015	0.18	0.033	1.18	0.029	0.26	0.050	1.38
Adjusted $R^2$	0.477		0.430		.506		.486	
Observations	155		728		103		482	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level.

**Table 11 The associations of controlling shareholders and audit committee effectiveness with accruals-based earnings quality**

*Panel A: Full sample (2005-2007)*

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>CS</i>	-0.006	-1.19	-0.011	-1.61	-0.011	-1.57	-0.007	-1.23	-0.006	-1.11
<i>ACE</i>	-0.001	-0.45	0.002	0.77	0.002	0.71	0.001	0.47	0.002	0.79
<i>MTB</i>	0.003	1.86*	0.010	3.52***	0.010	3.30***	0.007	2.75***	0.007	2.89***
<i>SGRWTH</i>	0.013	1.62	0.007	0.78	0.007	0.73	0.008	1.09	0.007	0.77
<i>ROA</i>	-0.107	-3.33***	-0.159	-3.15***	-0.179	-3.21***	-0.060	-1.42	-0.048	-1.15
<i>CFO</i>	0.060	3.30***	-0.008	-0.17	0.001	0.03	-0.004	-0.10	-0.018	-0.43
<i>VOL</i>	0.057	2.03**	0.053	1.43	0.064	1.58	0.021	0.65	0.022	0.72
<i>LOPC</i>	0.004	1.84*	0.005	1.41	0.007	1.60	0.003	0.97	0.003	0.95
<i>LEV</i>	-0.011	-1.18	-0.018	-1.33	-0.020	-1.29	-0.009	-0.78	-0.013	-1.17
<i>SIZE</i>	-0.003	-2.20**	-0.004	-2.03**	-0.004	-1.80*	-0.005	-2.75***	-0.004	-2.39**
<i>F_AGE</i>	-0.002	-0.72	-0.005	-1.05	-0.005	-0.85	-0.011	-2.52**	-0.008	-1.94*
Intercept	0.039	2.05**	0.160	4.44***	0.155	3.95***	0.179	6.10***	0.158	6.24***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	0.177		0.132		0.137		0.107		0.104	
Observations	873		883		883		883		883	

Table 11 (continued)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>CS</i>	-0.009	-1.61	-0.023	-2.84***	-0.023	-2.67***	-0.016	-2.32**	-0.017	-2.42**
<i>ACE</i>	0.001	0.24	0.003	0.82	0.003	0.86	0.002	0.76	0.004	1.23
<i>MTB</i>	0.005	2.78***	0.013	3.79***	0.012	3.35***	0.007	2.43**	0.006	2.02**
<i>SGRWTH</i>	0.008	0.93	0.009	0.81	0.010	0.84	0.009	0.95	0.002	0.18
<i>ROA</i>	-0.120	-3.25***	-0.194	-3.60***	-0.215	-3.51***	-0.052	-1.10	-0.030	-0.64
<i>CFO</i>	0.062	2.87***	-0.029	-0.56	-0.016	-0.26	-0.008	-0.16	-0.015	-0.31
<i>VOL</i>	0.055	1.83*	0.081	1.83*	0.092	1.91*	0.041	1.02	0.041	0.99
<i>LOPC</i>	0.002	0.63	0.005	1.18	0.008	1.44	0.003	0.69	0.003	0.74
<i>LEV</i>	-0.012	-1.12	-0.039	-2.32**	-0.037	-1.89*	-0.016	-1.03	-0.015	-1.00
<i>SIZE</i>	-0.004	-2.35**	-0.005	-2.20**	-0.005	-1.96*	-0.007	-3.20***	-0.006	-2.76***
<i>F_AGE</i>	-0.002	-0.40	-0.006	-1.07	-0.004	-0.69	-0.013	-2.55**	-0.013	-2.76***
Intercept	0.063	2.57**	0.088	2.28**	0.075	1.87*	0.155	5.13***	0.148	5.13***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.200		.183		.179		.111		.108	
Observations	576		585		585		585		585	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. *ABSAA\_DD*, *ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 12 The associations of types of controlling shareholders and audit committee effectiveness with accruals-based earnings quality**

*Panel A: Full sample (2005-2007)*

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	-0.007	-1.56	-0.012	-1.77*	-0.013	-1.75*	-0.007	-1.17	-0.006	-1.09
<i>WHLD</i>	-0.001	-0.10	0.013	0.78	0.019	0.96	0.007	0.43	0.011	0.52
<i>GOVT</i>	0.004	0.45	-0.018	-1.35	-0.023	-1.59	-0.018	-1.55	-0.022	-1.92*
<i>FRGN</i>	-0.002	-0.24	-0.005	-0.58	-0.004	-0.40	-0.003	-0.41	0.001	0.14
<i>ACE</i>	-0.000	-0.22	0.003	0.95	0.003	0.90	0.001	0.51	0.002	0.88
<i>MTB</i>	0.003	2.00**	0.009	3.53***	0.009	3.26***	0.006	2.67***	0.007	2.79***
<i>SGRWTH</i>	0.013	1.62	0.007	0.74	0.007	0.69	0.008	1.06	0.006	0.75
<i>ROA</i>	-0.110	-3.42***	-0.158	-3.14***	-0.177	-3.19***	-0.057	-1.36	-0.043	-1.05
<i>CFO</i>	0.060	3.42***	-0.005	-0.11	0.005	0.10	-0.003	-0.07	-0.016	-0.40
<i>VOL</i>	0.057	2.01**	0.055	1.49	0.067	1.67*	0.023	0.72	0.026	0.84
<i>LOPC</i>	0.004	1.74*	0.005	1.31	0.006	1.50	0.003	0.92	0.003	0.88
<i>LEV</i>	-0.011	-1.13	-0.017	-1.26	-0.019	-1.22	-0.009	-0.75	-0.013	-1.13
<i>SIZE</i>	-0.003	-2.62***	-0.004	-1.93*	-0.004	-1.62	-0.005	-2.59**	-0.004	-2.11**
<i>F_AGE</i>	-0.002	-0.79	-0.005	-0.97	-0.004	-0.76	-0.011	-2.42**	-0.008	-1.84*
Intercept	0.042	2.13**	0.152	3.92***	0.144	3.35***	0.169	5.35***	0.144	5.09***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	0.178		0.134		0.142		0.108		0.108	
Observations	873		883		883		883		883	



Table 12 (continued)

<i>Panel B: Subsample (2006-2007)</i>										
Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	-0.011	-1.81*	-0.025	-2.95***	-0.025	-2.79***	-0.016	-2.16**	-0.016	-2.23**
<i>WHLD</i>	-0.013	-1.82*	0.002	0.08	0.005	0.21	-0.006	-0.27	-0.010	-0.43
<i>GOVT</i>	0.002	0.20	-0.028	-1.80*	-0.032	-1.93*	-0.027	-1.91*	-0.032	-2.31**
<i>FRGN</i>	-0.005	-0.64	-0.019	-1.77*	-0.016	-1.33	-0.015	-1.66*	-0.013	-1.51
<i>ACE</i>	0.001	0.36	0.003	0.94	0.004	0.97	0.002	0.76	0.003	1.24
<i>MTB</i>	0.005	2.96***	0.013	3.85***	0.012	3.40***	0.007	2.39**	0.006	1.99**
<i>SGRWTH</i>	0.008	0.93	0.009	0.80	0.010	0.82	0.009	0.95	0.001	0.17
<i>ROA</i>	-0.123	-3.29***	-0.195	-3.60***	-0.215	-3.51***	-0.050	-1.05	-0.026	-0.55
<i>CFO</i>	0.060	2.78***	-0.025	-0.47	-0.011	-0.19	-0.006	-0.12	-0.014	-0.30
<i>VOL</i>	0.054	1.77*	0.082	1.85*	0.094	1.96*	0.043	1.05	0.044	1.06
<i>LOPC</i>	0.001	0.59	0.005	1.10	0.007	1.37	0.003	0.67*	0.003	0.74
<i>LEV</i>	-0.012	-1.09	-0.037	-2.23**	-0.036	-1.83*	-0.015	-1.01	-0.015	-1.00
<i>SIZE</i>	-0.004	-2.71***	-0.005	-2.11**	-0.004	-1.79*	-0.006	-3.08***	-0.005	-2.53**
<i>F_AGE</i>	-0.002	-0.51	-0.006	-0.99	-0.004	-0.61	-0.013	-2.41**	-0.012	-2.64***
Intercept	0.068	2.76***	0.088	2.23**	0.074	1.80*	0.151	4.84***	0.142	4.74***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.200		.184		.181		.108		.107	
Observations	576		585		585		585		585	

Table 12 (continued)

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute  $t$ -statistics. *ABSAA\_DD*, *ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 13 The associations of levels of voting rights of controlling shareholders and audit committee effectiveness with accruals-based earnings quality**

*Panel A: Full sample (2005-2007)*

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>VR25_50</i>	-0.003	-0.59	-0.008	-1.15	-0.008	-1.03	-0.005	-0.91	-0.005	-0.81
<i>VR50_75</i>	-0.010	-1.98**	-0.015	-2.21**	-0.017	-2.31**	-0.009	-1.58	-0.009	-1.50
<i>VR75</i>	-0.005	-0.66	-0.005	-0.53	-0.005	-0.46	-0.002	-0.29	-0.001	-0.07
<i>ACE</i>	-0.001	-0.47	0.002	0.74	0.002	0.68	0.001	0.44	0.002	0.75
<i>MTB</i>	0.003	1.80*	0.010	3.42***	0.009	3.19***	0.007	2.69***	0.007	2.83***
<i>SGRWTH</i>	0.013	1.67*	0.007	0.82	0.008	0.76	0.008	1.11	0.007	0.79
<i>ROA</i>	-0.105	-3.33***	-0.157	-3.16***	-0.177	-3.21***	-0.060	-1.41	-0.047	-1.15
<i>CFO</i>	0.059	3.34***	-0.008	-0.17	0.001	0.02	-0.004	-0.10	-0.018	-0.43
<i>VOL</i>	0.058	2.07**	0.053	1.44	0.065	1.60	0.021	0.66	0.023	0.73
<i>LOPC</i>	0.004	1.90*	0.005	1.44	0.007	1.63	0.003	0.99	0.003	0.98
<i>LEV</i>	-0.012	-1.22	-0.018	-1.35	-0.020	-1.33	-0.009	-0.80	-0.013	-1.18
<i>SIZE</i>	-0.003	-2.21**	-0.004	-2.04**	-0.004	-1.82*	-0.005	-2.73***	-0.004	-2.37**
<i>F_AGE</i>	-0.002	-0.74	-0.005	-1.08	-0.005	-0.88	-0.011	-2.56**	-0.008	-1.97**
Intercept	0.037	1.94*	0.158	4.37***	0.153	3.86***	0.178	6.05***	0.157	6.16***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	0.180		0.133		0.139		0.106		0.103	
Observations	873		883		883		883		883	

Table 13 (continued)

Panel B: Subsample (2006-2007)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>VR25_50</i>	-0.007	-1.12	-0.020	-2.32**	-0.020	-2.13**	-0.015	-1.92*	-0.016	-2.19**
<i>VR50_75</i>	-0.014	-2.22**	-0.028	-3.23***	-0.029	-3.14***	-0.019	-2.53**	-0.018	-2.50**
<i>VR75</i>	-0.008	-0.97	-0.024	-1.80*	-0.022	-1.48	-0.017	-1.53	-0.012	-1.05
<i>ACE</i>	0.000	0.18	0.003	0.80	0.003	0.82	0.002	0.74	0.004	1.19
<i>MTB</i>	0.005	2.74***	0.013	3.71***	0.012	3.27***	0.007	2.37**	0.006	1.99**
<i>SGRWTH</i>	0.009	1.01	0.010	0.86	0.011	0.89	0.009	0.98	0.002	0.21
<i>ROA</i>	-0.119	-3.25***	-0.192	-3.60***	-0.212	-3.52***	-0.051	-1.08	-0.030	-0.63
<i>CFO</i>	0.062	2.88***	-0.029	-0.57	-0.016	-0.27	-0.008	-0.17	-0.015	-0.31
<i>VOL</i>	0.056	1.88*	0.082	1.87*	0.093	1.96*	0.042	1.04	0.041	0.98
<i>LOPC</i>	0.002	0.68	0.006	1.18	0.008	1.45	0.003	0.69	0.003	0.75
<i>LEV</i>	-0.013	-1.15	-0.039	-2.35**	-0.038	-1.92*	-0.016	-1.05	-0.015	-0.99
<i>SIZE</i>	-0.004	-2.37**	-0.005	-2.22**	-0.005	-1.98**	-0.007	-3.20***	-0.006	-2.74***
<i>F_AGE</i>	-0.002	-0.41	-0.006	-1.09	-0.005	-0.70	-0.013	-2.57**	-0.013	-2.79***
Intercept	0.063	2.60**	0.089	2.30**	0.076	1.89*	0.155	5.15***	0.148	5.14***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.202		.183		.179		.108		.105	
Observations	576		585		585		585		585	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. *ABSAA\_DD*, *ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 14 The associations of types of controlling shareholders and audit committee effectiveness with signed abnormal accruals**

*Panel A: Full sample (2005-2007) - positive abnormal accruals only*

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_J1</i>		<i>AA_MJ1</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	-0.004	-0.61	-0.000	-0.02	-0.001	-0.28	0.005	1.09	0.003	0.57
<i>WHLD</i>	0.007	0.65	-0.006	-0.68	-0.006	-0.53	-0.010	-1.03	-0.006	-0.45
<i>GOVT</i>	0.001	0.10	-0.006	-0.64	-0.010	-1.17	-0.002	-0.26	-0.005	-0.60
<i>FRGN</i>	0.000	0.05	0.003	0.41	0.006	0.82	0.005	0.88	0.011	1.68*
<i>ACE</i>	0.000	0.13	0.004	1.50	0.004	1.49	-0.002	-0.80	0.000	0.06
<i>MTB</i>	0.003	1.27	0.005	2.01**	0.004	1.97**	0.005	2.38**	0.005	2.60**
<i>SGRWITH</i>	0.030	3.33***	-0.014	-2.21**	-0.009	-1.55	-0.004	-0.61	0.009	1.63
<i>ROA</i>	-0.012	-0.25	0.441	9.84***	0.456	8.81***	0.243	5.54***	0.241	6.04***
<i>CFO</i>	0.030	1.23	-0.520	-14.92***	-0.537	-14.51***	-0.425	-12.37***	-0.448	-11.55***
<i>VOL</i>	0.033	0.92	0.007	0.30	0.001	0.03	-0.008	-0.27	-0.001	-0.05
<i>LOPC</i>	0.006	1.74*	0.006	2.55**	0.007	2.21**	0.004	1.34	0.001	0.20
<i>LEV</i>	0.004	0.34	-0.009	-0.82	-0.006	-0.50	-0.016	-1.31	-0.015	-1.36
<i>SIZE</i>	-0.005	-2.76***	-0.001	-0.69	-0.001	-0.80	-0.000	-0.19	0.001	0.40
<i>F_AGE</i>	-0.003	-0.75	-0.004	-0.91	-0.004	-0.85	-0.004	-0.86	-0.000	-0.09
Intercept	0.040	1.55	0.066	2.48**	0.002	0.05	0.018	0.60	0.062	2.32**
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	0.170		0.589		0.611		0.541		0.534	
Observations	437		447		440		425		427	

Table 14 (continued)

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_J1</i>		<i>AA_MJ1</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	0.009	1.66*	0.011	2.05**	0.010	1.76*	0.011	2.17**	0.011	1.97*
<i>WHLD</i>	0.010	1.51	-0.000	-0.01	-0.007	-0.42	0.010	0.81	0.008	0.52
<i>GOVT</i>	-0.009	-1.01	0.003	0.26	0.006	0.48	0.014	1.61	0.021	2.24**
<i>FRGN</i>	0.000	0.04	0.005	0.69	-0.001	-0.15	0.010	1.21	0.009	1.06
<i>ACE</i>	0.002	1.12	-0.001	-0.48	-0.002	-0.60	-0.003	-1.54	-0.005	-2.11**
<i>MTB</i>	-0.002	-1.28	-0.003	-1.16	-0.002	-0.62	-0.000	-0.06	-0.001	-0.26
<i>SGRWTH</i>	0.014	2.05**	-0.019	-1.88*	-0.016	-1.38	-0.009	-1.13	0.018	2.47**
<i>ROA</i>	0.178	4.93***	0.650	13.62***	0.722	14.20***	0.368	10.08***	0.319	8.10***
<i>CFO</i>	-0.069	-2.89***	-0.581	-12.12***	-0.675	-12.28***	-0.460	-12.11***	-0.432	-10.13***
<i>VOL</i>	-0.060	-2.04**	0.021	0.64	-0.029	-0.79	0.032	1.14	-0.003	-0.10
<i>LOPC</i>	0.000	0.03	0.004	1.09	0.004	0.96	0.003	1.37	0.003	1.13
<i>LEV</i>	0.017	1.63	0.032	2.91***	0.033	2.66***	0.016	1.42	0.015	1.34
<i>SIZE</i>	0.001	0.81	0.003	1.63	0.002	1.03	0.004	2.16**	0.004	1.97*
<i>F_AGE</i>	-0.001	-0.30	0.001	0.16	-0.002	-0.47	0.008	1.46	0.005	1.06
Intercept	-0.035	-1.36	0.006	0.22	-0.051	-1.32	-0.142	-4.36***	-0.003	-0.14
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	0.269		0.631		0.663		0.513		0.482	
Observations	436		436		443		458		456	

Table 14 (continued)

*Panel C: Subsample (2006-2007) - Positive abnormal accruals only*

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_JI</i>		<i>AA_MJI</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	-0.008	-1.02	-0.005	-0.85	-0.009	-1.32	0.003	0.58	0.002	0.27
<i>WHLD</i>	-0.010	-0.94	-0.004	-0.30	-0.007	-0.49	-0.008	-0.58	-0.006	-0.44
<i>GOVT</i>	-0.001	-0.05	-0.004	-0.43	-0.007	-0.80	-0.002	-0.23	-0.002	-0.18
<i>FRGN</i>	-0.007	-0.73	-0.005	-0.53	0.001	0.08	-0.002	-0.22	0.006	0.66
<i>ACE</i>	0.002	0.67	0.005	1.81*	0.007	2.43**	-0.000	-0.06	0.003	0.96
<i>MTB</i>	0.003	1.35	0.006	1.77*	0.006	1.75*	0.005	1.54	0.005	1.69*
<i>SGRWTH</i>	0.017	1.43	-0.014	-1.58	-0.010	-1.22	-0.002	-0.26	0.003	0.43
<i>ROA</i>	-0.021	-0.35	0.368	6.75***	0.380	6.30***	0.186	4.24***	0.221	5.37***
<i>CFO</i>	0.047	1.54	-0.491	-11.87***	-0.518	-12.08***	-0.409	-10.47***	-0.453	-10.53***
<i>VOL</i>	-0.014	-0.41	0.001	0.05	-0.004	-0.14	-0.009	-0.27	-0.010	-0.31
<i>LOPC</i>	0.006	1.63	0.008	2.73***	0.010	2.75***	0.006	2.09**	0.004	1.37
<i>LEV</i>	0.006	0.47	-0.016	-1.08	-0.011	-0.69	-0.011	-0.77	-0.008	-0.56
<i>SIZE</i>	-0.005	-2.46**	-0.003	-1.36	-0.003	-1.49	-0.002	-0.83	-0.001	-0.36
<i>F_AGE</i>	-0.006	-1.22	-0.003	-0.59	-0.003	-0.48	-0.001	-0.12	-0.000	-0.05
Intercept	0.071	2.12**	0.057	2.02**	0.114	2.97***	0.132	4.03***	0.016	0.36
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.115		.563		.594		.519		.543	
Observations	295		293		283		277		275	

Table 14 (continued)

*Panel D: Subsample (2006-2007) - Negative abnormal accruals only*

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_J1</i>		<i>AA_MJ1</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	0.009	1.27	0.021	3.18***	0.019	2.67***	0.020	3.02***	0.021	2.91***
<i>WHLD</i>	0.014	1.56	0.007	0.34	0.006	0.28	0.029	2.06**	0.045	5.03***
<i>GOVT</i>	-0.010	-0.94	0.019	1.25	0.019	1.29	0.027	2.20**	0.036	2.92***
<i>FRGN</i>	-0.005	-0.58	0.015	1.81*	0.007	0.80	0.020	2.15**	0.020	1.96*
<i>ACE</i>	0.004	1.54	-0.001	-0.49	-0.002	-0.58	-0.004	-1.55	-0.006	-2.33**
<i>MTB</i>	-0.005	-1.97*	-0.006	-1.65	-0.004	-1.10	0.000	0.17	0.002	0.64
<i>SGRWTH</i>	0.017	1.41	-0.029	-1.85*	-0.028	-1.83*	-0.010	-0.78	0.011	1.01
<i>ROA</i>	0.168	4.64***	0.644	11.13***	0.721	12.74***	0.317	7.86***	0.270	6.29***
<i>CFO</i>	-0.046	-1.59	-0.565	-9.42***	-0.672	-10.22***	-0.462	-9.00***	-0.437	-7.45***
<i>VOL</i>	-0.069	-1.94*	-0.021	-0.44	-0.071	-1.57	0.001	0.02	-0.019	-0.52
<i>LOPC</i>	0.007	2.13**	0.003	1.03	0.003	0.82	0.004	1.74*	0.003	1.30
<i>LEV</i>	0.015	1.12	0.039	2.42**	0.033	1.77*	0.011	0.67	0.006	0.40
<i>SIZE</i>	0.004	1.80*	0.002	0.90	0.001	0.43	0.005	2.08**	0.004	1.91*
<i>F_AGE</i>	0.000	0.01	0.005	0.75	-0.001	-0.09	0.011	1.73*	0.008	1.46
Intercept	-0.103	-3.63***	-0.095	-2.32**	-0.034	-0.74	-0.004	-0.14	-0.135	-3.40***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.325		.655		.686		.517		.499	
Observations	281		292		302		308		310	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. All continuous variables are winsorized at 1% and 99% level.



**Table 15 The relation between audit committee effectiveness and accruals-based earnings quality**

<i>Panel A: Full sample (2005-2007)</i>											
Independent variable	Dependent variable										
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>		
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	
<i>ACE</i>	-0.001	-0.57	0.002	0.63	0.002	0.58	0.001	0.37	0.002	0.70	
<i>MTB</i>	0.003	1.74*	0.009	3.41***	0.009	3.18***	0.006	2.65***	0.007	2.79***	
<i>SGRWTH</i>	0.013	1.61	0.007	0.77	0.007	0.71	0.008	1.07	0.006	0.75	
<i>ROA</i>	-0.109	-3.39***	-0.162	-3.26***	-0.183	-3.31***	-0.062	-1.48	-0.049	-1.21	
<i>CFO</i>	0.059	3.28***	-0.009	-0.19	0.000	0.01	-0.005	-0.12	-0.018	-0.45	
<i>VOL</i>	0.059	2.04**	0.055	1.48	0.067	1.62	0.022	0.70	0.024	0.77	
<i>LOPC</i>	0.004	1.64	0.005	1.21	0.006	1.41	0.003	0.84	0.002	0.82	
<i>LEV</i>	-0.011	-1.14	-0.017	-1.27	-0.019	-1.24	-0.009	-0.74	-0.013	-1.13	
<i>SIZE</i>	-0.003	-2.18**	-0.004	-2.01**	-0.004	-1.78*	-0.005	-2.73***	-0.004	-2.37**	
<i>F_AGE</i>	-0.002	-0.70	-0.005	-1.05	-0.004	-0.85	-0.011	-2.53**	-0.008	-1.94*	
Intercept	0.036	1.88*	0.154	4.36***	0.149	3.89***	0.175	6.04***	0.155	6.15***	
Industry dummies	Yes		Yes		Yes		Yes		Yes		
Year dummies	Yes		Yes		Yes		Yes		Yes		
Adjusted $R^2$	0.175		0.130		0.134		0.107		0.103		
Observations	873		883		883		883		883		

Table 15 (continued)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>ACE</i>	0.000	0.11	0.002	0.63	0.003	0.67	0.002	0.61	0.003	1.07
<i>MTB</i>	0.005	2.54**	0.012	3.43***	0.011	3.02***	0.007	2.16**	0.005	1.74
<i>SGRWTH</i>	0.008	0.86	0.008	0.68	0.009	0.71	0.008	0.82	0.001	0.08
<i>ROA</i>	-0.122	-3.28***	-0.200	-3.71***	-0.221	-3.61***	-0.056	-1.19	-0.034	-0.73
<i>CFO</i>	0.062	2.81***	-0.030	-0.58	-0.017	-0.28	-0.009	-0.18	-0.016	-0.33
<i>VOL</i>	0.057	1.82*	0.085	1.83*	0.096	1.91*	0.044	1.07	0.044	1.05
<i>LOPC</i>	0.001	0.41	0.004	0.85	0.006	1.14	0.002	0.44	0.002	0.49
<i>LEV</i>	-0.012	-1.05	-0.037	-2.18**	-0.036	-1.79*	-0.015	-0.95	-0.014	-0.91
<i>SIZE</i>	-0.004	-2.34**	-0.005	-2.16**	-0.005	-1.93*	-0.007	-3.16***	-0.006	-2.73
<i>F_AGE</i>	-0.001	-0.34	-0.006	-1.02	-0.004	-0.64	-0.013	-2.50**	-0.013	-2.70
Intercept	0.065	2.61**	0.094	2.31**	0.081	1.91*	0.159	5.00***	0.152	4.98
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.194		.166		.165		.100		.096	
Observations	576		585		585		585		585	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. *ABSAA\_DD*, *ABSAA\_JI*, *ABSAA\_MJI*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 16 The relation between audit committee effectiveness and accruals-based earnings quality - by whether firms have a controlling shareholder**

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>ACE</i>	0.000	0.24	0.004	0.95	0.003	0.79	0.002	0.48	0.003	0.77
<i>MTB</i>	0.004	2.08**	0.012	3.29***	0.012	3.23***	0.009	3.24***	0.009	3.17***
<i>SGRWTH</i>	0.020	2.11**	0.030	2.37**	0.030	2.05**	0.028	2.47**	0.028	2.01**
<i>ROA</i>	-0.116	-3.00***	-0.258	-3.12***	-0.282	-3.34***	-0.122	-2.42**	-0.108	-2.21**
<i>CFO</i>	0.065	3.15***	0.015	0.25	0.023	0.36	-0.000	-0.01	-0.011	-0.20
<i>VOL</i>	0.051	1.80*	0.050	1.06	0.053	1.02	0.018	0.47	0.017	0.46
<i>LOPC</i>	0.007	2.78***	0.012	2.52**	0.015	2.64***	0.010	2.33**	0.009	2.23**
<i>LEV</i>	-0.012	-1.15	-0.038	-2.21**	-0.038	-2.05**	-0.028	-2.05**	-0.030	-2.21**
<i>SIZE</i>	-0.003	-2.24**	-0.004	-1.40	-0.004	-1.32	-0.005	-1.79*	-0.004	-1.38
<i>F_AGE</i>	-0.001	-0.47	-0.004	-0.82	-0.005	-0.84	-0.009	-1.58	-0.006	-1.08
Intercept	0.017	0.83	0.113	3.07***	0.108	2.79***	0.125	4.01***	0.103	3.49***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.172		.135		.145		.103		.100	
Observations	720		728		728		728		728	

Table 16 (continued)

<i>Panel B: Full sample (2005-2007) - firms with no controlling shareholder only</i>										
Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>ACE</i>	-0.012	-1.41	0.005	0.42	0.004	0.37	0.003	0.31	0.003	0.45
<i>MTB</i>	0.000	0.02	0.023	1.68*	0.025	1.55	0.011	1.07	0.012	2.05**
<i>SGRWTH</i>	0.002	0.15	-0.031	-1.80*	-0.034	-1.77*	-0.028	-2.21**	-0.035	-3.00***
<i>ROA</i>	-0.096	-1.73*	-0.051	-0.69	-0.037	-0.46	0.085	0.94	0.092	1.07
<i>CFO</i>	0.007	0.14	-0.114	-1.14	-0.148	-1.16	-0.104	-1.00	-0.104	-1.29
<i>VOL</i>	0.057	0.78	0.031	0.39	0.039	0.46	0.002	0.02	0.006	0.06
<i>LOPC</i>	-0.004	-1.11	-0.007	-1.36	-0.008	-1.47	-0.010	-2.30**	-0.009	-2.19**
<i>LEV</i>	-0.036	-0.88	0.014	0.27	0.010	0.18	0.016	0.34	0.015	0.33
<i>SIZE</i>	0.005	0.65	-0.013	-1.32	-0.011	-1.09	-0.013	-1.74*	-0.012	-1.85*
<i>F_AGE</i>	-0.007	-0.64	-0.002	-0.10	-0.000	-0.02	-0.024	-1.55	-0.024	-1.74*
Intercept	0.051	0.97	0.142	1.21	0.138	1.03	0.293	3.53***	0.258	3.84***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.194		.190		.166		.130		.153	
Observations	153		155		155		155		155	

Table 16 (continued)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>ACE</i>	0.001	0.36	0.004	0.86	0.003	0.75	0.003	0.64	0.004	1.11
<i>MTB</i>	0.004	2.46**	0.015	3.04***	0.014	2.82***	0.010	2.69***	0.009	2.33**
<i>SGRWTH</i>	0.007	0.76	0.027	1.38	0.028	1.38	0.028	1.54	0.022	1.18
<i>ROA</i>	-0.137	-3.40***	-0.267	-2.81***	-0.294	-2.98***	-0.077	-1.42	-0.051	-0.98
<i>CFO</i>	0.069	3.10***	-0.027	-0.38	-0.015	-0.19	-0.023	-0.33	-0.034	-0.50
<i>VOL</i>	0.026	1.07	0.066	1.33	0.064	1.12	0.035	0.84	0.037	0.90
<i>LOPC</i>	0.002	0.85	0.012	1.99**	0.015	2.24**	0.009	1.88*	0.011	2.13**
<i>LEV</i>	-0.005	-0.49	-0.066	-3.11***	-0.061	-2.52**	-0.036	-2.18**	-0.034	-2.09**
<i>SIZE</i>	-0.004	-2.30**	-0.005	-1.68*	-0.004	-1.55	-0.007	-2.49**	-0.005	-2.03**
<i>F_AGE</i>	-0.003	-0.84	-0.005	-0.82	-0.004	-0.68	-0.010	-1.66*	-0.010	-1.89*
Intercept	0.060	2.53**	0.029	0.69	0.006	0.14	0.071	2.14**	0.050	1.63
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.191		.156		.163		.079		.072	
Observations	475		482		482		482		482	

Table 16 (continued)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>ACE</i>	-0.010	-0.87	0.010	0.77	0.011	0.87	0.001	0.12	0.003	0.27
<i>MTB</i>	0.009	1.01	0.032	2.45**	0.033	2.32**	0.009	1.15	0.008	1.21
<i>SGRWTH</i>	0.029	1.02	-0.009	-0.29	-0.009	-0.29	-0.031	-1.36	-0.034	-1.52
<i>ROA</i>	-0.101	-1.08	-0.164	-1.79*	-0.179	-1.85*	0.043	0.39	0.058	0.50
<i>CFO</i>	0.028	0.44	-0.046	-0.44	-0.030	-0.25	-0.023	-0.24	-0.025	-0.24
<i>VOL</i>	0.142	1.76	0.074	0.67	0.115	0.99	-0.025	-0.20	-0.030	-0.24
<i>LOPC</i>	-0.001	-0.25	0.001	0.19	0.001	0.15	-0.005	-0.82	-0.006	-1.15
<i>LEV</i>	-0.062	-0.98	0.057	0.74	0.056	0.71	0.043	0.57	0.040	0.51
<i>SIZE</i>	0.006	0.58	-0.017	-1.16	-0.012	-0.86	-0.014	-1.07	-0.013	-0.99
<i>F_AGE</i>	0.000	0.02	-0.011	-0.43	-0.006	-0.19	-0.029	-1.60	-0.033	-1.80*
Intercept	-0.014	-0.14	0.187	1.26	0.129	0.78	0.285	2.61**	0.283	2.58**
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.200		.219		.193		.111		.079	
Observations	101		103		103		103		103	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. *ABSAA\_DD*, *ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 17 Summary statistics and correlation matrix for performance analysis**

<i>Panel A: Summary statistics of variables used in firm performance analysis</i>							
	Mean	Median	Std. Dev.	10th %	25th %	75th%	90th %
<i>ROA(EBITDA)</i>	0.132	0.125	0.110	0.018	0.072	0.185	0.269
Tobin's <i>q</i>	1.198	1.007	0.633	0.644	0.814	1.384	1.992

  

<i>Panel B: Pearson (top) and Spearman (bottom) correlations among variables used in performance analysis</i>																
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) <i>CS</i>		<b>0.600</b>	<b>0.077</b>	<b>0.113</b>	<b>0.164</b>	<b>0.410</b>	<b>0.314</b>	<b>0.122</b>	<b>0.129</b>	<b>0.144</b>	0.057	-0.011	<b>-0.107</b>	-0.059	0.019	0.064
(2) <i>FAMILY</i>	<b>0.600</b>		<b>-0.217</b>	<b>-0.319</b>	<b>-0.462</b>	<b>0.165</b>	<b>0.297</b>	0.034	0.001	0.024	0.005	<b>-0.067</b>	-0.013	-0.044	<b>-0.161</b>	0.061
(3) <i>WHLD</i>	<b>0.077</b>	<b>-0.217</b>		-0.041	-0.059	0.062	0.021	-0.044	0.024	0.020	0.062	0.039	0.015	-0.008	-0.034	-0.055
(4) <i>GOVT</i>	<b>0.113</b>	<b>-0.319</b>	-0.041		<b>-0.087</b>	<b>0.127</b>	-0.041	-0.006	<b>0.130</b>	<b>0.132</b>	<b>0.072</b>	0.054	-0.051	0.033	<b>0.295</b>	-0.064
(5) <i>FRGN</i>	<b>0.164</b>	<b>-0.462</b>	-0.059	<b>-0.087</b>		<b>0.118</b>	-0.057	<b>0.123</b>	0.046	0.031	-0.023	0.030	<b>-0.080</b>	-0.023	<b>0.072</b>	0.060
(6) <i>VR25_50</i>	<b>0.410</b>	<b>0.165</b>	0.062	<b>0.127</b>	<b>0.118</b>		<b>-0.606</b>	<b>-0.236</b>	0.048	<b>0.067</b>	0.045	0.007	-0.041	0.053	<b>0.116</b>	-0.023
(7) <i>VR50_75</i>	<b>0.314</b>	<b>0.297</b>	0.021	-0.041	-0.057	<b>-0.606</b>		<b>-0.181</b>	0.045	0.049	-0.013	-0.004	-0.031	<b>-0.083</b>	<b>-0.090</b>	0.042
(8) <i>VR75</i>	<b>0.122</b>	0.034	-0.044	-0.006	<b>0.123</b>	<b>-0.236</b>	<b>-0.181</b>		0.017	-0.003	0.021	-0.023	-0.026	-0.041	-0.033	0.066
(9) <i>ROA</i>	0.065	-0.065	0.018	<b>0.164</b>	0.049	0.029	0.022	0.000		<b>0.917</b>	<b>0.409</b>	<b>0.239</b>	<b>-0.299</b>	<b>-0.273</b>	<b>0.108</b>	0.056
(10) <i>ROA(EBITDA)</i>	<b>0.097</b>	-0.026	0.008	<b>0.142</b>	0.048	0.063	0.021	-0.016	<b>0.920</b>		<b>0.498</b>	<b>0.234</b>	<b>-0.259</b>	<b>-0.212</b>	<b>0.113</b>	0.027
(11) Tobin's <i>q</i>	0.039	-0.035	0.018	<b>0.118</b>	0.005	0.061	-0.025	-0.017	<b>0.512</b>	<b>0.535</b>		<b>0.072</b>	<b>0.083</b>	-0.057	<b>0.168</b>	<b>-0.082</b>
(12) <i>SGRWTH</i>	0.003	-0.062	0.026	<b>0.074</b>	0.031	0.014	0.006	-0.034	<b>0.311</b>	<b>0.325</b>	<b>0.207</b>		-0.009	<b>0.080</b>	0.066	<b>-0.069</b>
(13) <i>VOL</i>	<b>-0.089</b>	-0.005	0.033	-0.049	<b>-0.080</b>	-0.013	-0.016	<b>-0.079</b>	<b>-0.264</b>	<b>-0.250</b>	-0.038	0.012		<b>0.221</b>	<b>-0.118</b>	<b>-0.132</b>
(14) <i>LEV</i>	-0.065	-0.057	-0.010	0.046	-0.019	0.064	<b>-0.092</b>	-0.055	<b>-0.318</b>	<b>-0.221</b>	0.017	<b>0.098</b>	<b>0.250</b>		<b>0.306</b>	<b>-0.131</b>
(15) <i>SIZE</i>	0.002	<b>-0.155</b>	-0.028	<b>0.211</b>	<b>0.099</b>	<b>0.101</b>	<b>-0.095</b>	-0.021	<b>0.091</b>	<b>0.081</b>	<b>0.230</b>	<b>0.129</b>	-0.031	<b>0.335</b>		<b>-0.102</b>
(16) <i>F_AGE</i>	0.054	0.052	-0.060	-0.027	0.036	-0.033	0.045	0.064	0.001	-0.009	<b>-0.133</b>	<b>-0.079</b>	<b>-0.172</b>	<b>-0.165</b>	<b>-0.132</b>	

Bold text indicates significance at 5% or better (two-tailed).

**Table 18 Controlling shareholders and firm performance**

<i>Panel A: Controlling shareholders and firm performance</i>						
Independent Variable	Dependent Variable					
	ROA		ROA(EBITDA)		Tobin's <i>q</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>CS</i>	0.024	2.24**	0.032	2.48**	0.119	1.89*
<i>SGRWTH</i>	0.059	4.53***	0.076	4.66***	0.115	1.87*
<i>VOL</i>	-0.223	-3.13***	-0.221	-2.89***	1.251	2.56**
<i>LEV</i>	-0.148	-7.12***	-0.140	-5.13***	-0.466	-2.66***
<i>SIZE</i>	0.011	3.75***	0.015	3.23***	0.110	3.64***
<i>F_AGE</i>	0.005	0.51	0.005	0.40	-0.024	-0.33
Intercept	0.069	1.38	0.101	1.65	0.366	0.98
Industry dummies	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
Adjusted $R^2$	.266		.242		.188	
Observations	883		883		883	

  

<i>Panel B: Type of controlling shareholder and firm performance</i>						
Independent Variable	Dependent Variable					
	ROA		ROA(EBITDA)		Tobin's <i>q</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>FAMILY</i>	0.022	2.07**	0.032	2.39**	0.119	1.83*
<i>WHLD</i>	0.013	0.56	0.015	0.47	0.219	0.65
<i>GOVT</i>	0.051	2.78***	0.051	1.94*	0.037	0.31
<i>FRGN</i>	0.017	1.33	0.026	1.57	0.138	1.39
<i>SGRWTH</i>	0.059	4.48***	0.076	4.62***	0.115	1.83*
<i>VOL</i>	-0.227	-3.19***	-0.223	-2.92***	1.259	2.57**
<i>LEV</i>	-0.147	-7.00***	-0.139	-5.05***	-0.469	-2.61***
<i>SIZE</i>	0.010	3.16***	0.014	2.98***	0.114	3.53***
<i>F_AGE</i>	0.005	0.46	0.005	0.36	-0.021	-0.29
Intercept	0.089	1.74*	0.116	1.84*	0.302	0.75
Industry dummies	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
Adjusted $R^2$	.268		.241		.186	
Observations	883		883		883	



Table18 (continued)

<i>Panel C: Level of voting rights of the controlling shareholder and firm performance</i>						
Independent Variable	Dependent Variable					
	<i>ROA</i>		<i>ROA(EBITDA)</i>		Tobin's <i>q</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>VR25_50</i>	0.022	1.90*	0.031	2.23**	0.129	1.83*
<i>VR50_75</i>	0.027	2.27**	0.034	2.33**	0.095	1.23
<i>VR75</i>	0.028	1.57	0.030	1.28	0.179	1.07
<i>SGRWTH</i>	0.059	4.52***	0.076	4.66***	0.116	1.93*
<i>VOL</i>	-0.224	-3.13***	-0.221	-2.89***	1.252	2.59**
<i>LEV</i>	-0.148	-7.10***	-0.140	-5.13***	-0.469	-2.67***
<i>SIZE</i>	0.012	3.79***	0.015	3.23***	0.110	3.64***
<i>F_AGE</i>	0.005	0.51	0.005	0.40	-0.025	-0.34
Intercept	0.070	1.41	0.102	1.66*	0.361	0.96
Industry dummies	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
Adjusted $R^2$	.265		.240		.187	
Observations	883		883		883	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level.

**Table 19 The associations of ownership concentration and audit committee effectiveness with accounting conservatism**

Top 3 Shareholders			Top 5 Shareholders		
Independent variable	Regression (1)		Independent variable	Regression (2)	
	Coef.	<i>t</i>		Coef.	<i>t</i>
<i>NRD</i>	-0.040	-0.82		-0.031	-0.57
<i>TOP3</i>	-0.050	-1.89*	<i>TOP5</i>	-0.054	-1.91*
<i>ACE</i>	-0.007	-1.70*		-0.006	-1.56
<i>MTB</i>	0.028	5.23***		0.028	5.28***
<i>LEV</i>	-0.098	-3.70***		-0.097	-3.64***
<i>SIZE</i>	0.003	0.78		0.003	0.64
<i>NRD*TOP3</i>	-0.009	-0.19	<i>NRD*TOP5</i>	-0.022	-0.43
<i>NRD*ACE</i>	0.001	0.08		0.000	0.02
<i>NRD*MTB</i>	0.010	1.00		0.009	0.96
<i>NRD*LEV</i>	-0.053	-1.28		-0.056	-1.35
<i>NRD*SIZE</i>	0.005	0.81		0.005	0.83
<i>R</i>	-0.070	-1.11		-0.100	-1.52
<i>R*TOP3</i>	0.144	2.11**	<i>R*TOP5</i>	0.163	2.31**
<i>R*ACE</i>	0.028	2.40**		0.025	2.32**
<i>R*MTB</i>	0.020	1.64		0.018	1.56
<i>R*LEV</i>	-0.088	-1.35		-0.092	-1.41
<i>R*SIZE</i>	-0.000	-0.01		0.001	0.18
<i>R*NRD</i>	0.369	1.48		0.479	1.80*
<i>R*NRD*TOP3</i>	-0.477	-2.37**	<i>R*NRD*TOP5</i>	-0.559	-2.68***
<i>R*NRD*ACE</i>	-0.070	-1.63		-0.066	-1.59
<i>R*NRD*MTB</i>	0.040	1.21		0.040	1.21
<i>R*NRD*LEV</i>	-0.150	-0.97		-0.147	-0.97
<i>R*NRD*SIZE</i>	0.011	0.46		0.007	0.31
Intercept	0.063	2.12**		0.072	2.26**
Adjusted <i>R</i> <sup>2</sup>	.425			.428	
Observations	883			883	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level.

**Table 20 The associations of ownership concentration and audit committee characteristics with accruals-based earnings quality**

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_JI</i>		<i>ABSAA_MJI</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP3</i>	-0.003	-0.38	-0.010	-0.72	-0.011	-0.73	-0.005	-0.41	-0.005	-0.39
<i>ACE</i>	-0.001	-0.57	0.002	0.63	0.002	0.58	0.001	0.37	0.002	0.70
<i>MTB</i>	0.003	1.74*	0.009	3.44***	0.009	3.21***	0.006	2.65***	0.007	2.79***
<i>SGRWTH</i>	0.013	1.62	0.007	0.78	0.007	0.73	0.008	1.09	0.007	0.77
<i>ROA</i>	-0.109	-3.40***	-0.162	-3.26***	-0.182	-3.30***	-0.062	-1.48	-0.049	-1.21
<i>CFO</i>	0.060	3.30***	-0.007	-0.16	0.002	0.04	-0.004	-0.10	-0.018	-0.42
<i>VOL</i>	0.059	2.04**	0.055	1.48	0.066	1.62	0.022	0.69	0.024	0.76
<i>LOPC</i>	0.004	1.69*	0.005	1.30	0.007	1.51	0.003	0.88	0.003	0.87
<i>LEV</i>	-0.011	-1.15	-0.018	-1.34	-0.020	-1.30	-0.009	-0.78	-0.013	-1.17
<i>SIZE</i>	-0.003	-2.17**	-0.004	-1.93*	-0.004	-1.70*	-0.005	-2.64***	-0.004	-2.29**
<i>F_AGE</i>	-0.002	-0.73	-0.005	-1.08	-0.005	-0.89	-0.011	-2.51**	-0.008	-1.94*
Intercept	0.038	1.82*	0.159	4.22***	0.154	3.74***	0.178	5.95***	0.157	6.06***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.174		.129		.134		.106		.102	
Observations	873		883		883		883		883	

Table 20 (continued)

Independent variable	Dependent variable									
	<i>ABSAA_DD</i>		<i>ABSAA_J1</i>		<i>ABSAA_MJ1</i>		<i>ABSAA_J2</i>		<i>ABSAA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP5</i>	-0.003	-0.36	-0.009	-0.63	-0.010	-0.60	-0.001	-0.07	-0.000	-0.02
<i>ACE</i>	-0.001	-0.56	0.002	0.65	0.002	0.59	0.001	0.37	0.002	0.70
<i>MTB</i>	0.003	1.74*	0.009	3.43***	0.009	3.21***	0.006	2.64***	0.007	2.78***
<i>SGRWTH</i>	0.013	1.61	0.007	0.78	0.007	0.72	0.008	1.08	0.006	0.76
<i>ROA</i>	-0.109	-3.40***	-0.162	-3.24***	-0.182	-3.28***	-0.062	-1.47	-0.049	-1.20
<i>CFO</i>	0.059	3.30***	-0.007	-0.17	0.002	0.03	-0.005	-0.12	-0.018	-0.44
<i>LOPC</i>	0.004	1.68*	0.005	1.29	0.007	1.49	0.003	0.85	0.002	0.83
<i>VOL</i>	0.059	2.04**	0.055	1.47	0.066	1.61	0.022	0.70	0.024	0.77
<i>LEV</i>	-0.011	-1.15	-0.018	-1.32	-0.020	-1.28	-0.009	-0.75	-0.013	-1.14
<i>SIZE</i>	-0.003	-2.17**	-0.004	-1.97**	-0.004	-1.74*	-0.005	-2.70***	-0.004	-2.35**
<i>F_AGE</i>	-0.002	-0.72	-0.005	-1.07	-0.005	-0.88	-0.011	-2.49**	-0.008	-1.91*
Intercept	0.038	1.79*	0.160	4.11***	0.155	3.63***	0.175	5.77***	0.155	5.80***
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.174		.129		.134		.106		.102	
Observations	873		883		883		883		883	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed). Standard errors adjusted for firm-level clustering are used to compute *t*-statistics. *ABSAA\_DD*, *ABSAA\_J1*, *ABSAA\_MJ1*, *ABSAA\_J2*, and *ABSAA\_MJ2* are winsorized at 99% level. All other continuous variables are winsorized at 1% and 99% level.

**Table 21 The associations of ownership concentration and audit committee effectiveness with signed abnormal accruals**

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_JI</i>		<i>AA_MJI</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP3</i>	0.004	0.37	0.008	0.66	0.006	0.45	0.012	1.18	0.010	0.88
<i>ACE</i>	-0.000	-0.10	0.004	1.66*	0.004	1.55	-0.001	-0.48	0.000	0.20
<i>MTB</i>	0.003	1.22	0.005	1.96*	0.004	1.86*	0.005	2.34**	0.006	2.57**
<i>SGRWTH</i>	0.030	3.23***	-0.015	-2.29**	-0.009	-1.60	-0.004	-0.63	0.009	1.65
<i>ROA</i>	-0.008	-0.16	0.440	9.96***	0.454	8.80***	0.237	5.38***	0.237	6.01***
<i>CFO</i>	0.026	1.04	-0.519	-15.30***	-0.536	-14.54***	-0.420	-12.26***	-0.444	-11.56***
<i>VOL</i>	0.032	0.89	0.006	0.25	-0.002	-0.06	-0.007	-0.26	-0.003	-0.11
<i>LOPC</i>	0.006	1.75*	0.006	2.39**	0.006	2.04**	0.003	1.14	0.000	0.06
<i>LEV</i>	0.004	0.33	-0.007	-0.67	-0.005	-0.39	-0.013	-1.10	-0.013	-1.17
<i>SIZE</i>	-0.005	-2.66***	-0.002	-0.91	-0.002	-0.96	-0.001	-0.40	0.001	0.33
<i>F_AGE</i>	-0.003	-0.78	-0.004	-0.89	-0.004	-0.89	-0.003	-0.70	0.000	0.01
Intercept	0.036	1.35	0.068	2.62***	0.071	2.48**	0.090	3.55***	0.007	0.26
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.173		.592		.612		.543		.535	
Observations	437		447		440		425		427	

Table 21 (continued)

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_JI</i>		<i>AA_MJI</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP3</i>	0.009	0.88	0.031	2.51**	0.029	2.31**	0.033	2.80***	0.033	2.52**
<i>ACE</i>	0.003	1.32	-0.000	-0.15	-0.001	-0.29	-0.003	-1.49	-0.005	-2.02**
<i>MTB</i>	-0.002	-0.97	-0.003	-1.02	-0.001	-0.49	0.000	0.10	-0.000	-0.18
<i>SGRWTH</i>	0.013	1.92*	-0.019	-1.90*	-0.015	-1.37	-0.010	-1.26	0.017	2.48**
<i>ROA</i>	0.179	4.95***	0.650	13.78***	0.722	14.31***	0.375	10.76***	0.329	8.73***
<i>CFO</i>	-0.070	-2.93***	-0.583	-12.23***	-0.676	-12.32***	-0.466	-12.19***	-0.439	-10.21***
<i>VOL</i>	-0.063	-2.08**	0.024	0.75	-0.024	-0.68	0.034	1.29	0.002	0.06
<i>LOPC</i>	-0.001	-0.18	0.003	1.11	0.004	0.98	0.002	1.28	0.003	1.30
<i>LEV</i>	0.018	1.71*	0.034	3.09***	0.033	2.75***	0.017	1.49	0.017	1.49
<i>SIZE</i>	0.001	0.32	0.003	1.41	0.002	0.96	0.004	2.10**	0.005	2.21**
<i>F_AGE</i>	-0.001	-0.31	0.001	0.17	-0.003	-0.52	0.009	1.65	0.006	1.30
Intercept	-0.027	-1.03	-0.000	-0.01	-0.074	-2.00**	-0.157	-5.10***	-0.018	-0.81
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.262		.637		.665		.523		.491	
Observations	436		436		443		458		456	

Table 21 (continued)

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_JI</i>		<i>AA_MJI</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP5</i>	0.008	0.69	0.008	0.65	0.003	0.27	0.014	1.30	0.014	1.30
<i>ACE</i>	-0.000	-0.11	0.004	1.64	0.004	1.54	-0.001	-0.51	0.000	0.18
<i>MTB</i>	0.002	1.20	0.005	1.95*	0.004	1.86*	0.005	2.34**	0.006	2.58**
<i>SGRWTH</i>	0.030	3.21***	-0.015	-2.28**	-0.009	-1.57	-0.004	-0.62	0.009	1.67*
<i>ROA</i>	-0.007	-0.15	0.440	9.96***	0.454	8.80***	0.236	5.38***	0.236	5.97***
<i>CFO</i>	0.026	1.02	-0.518	-15.32***	-0.536	-14.58***	-0.419	-12.28***	-0.444	-11.55***
<i>VOL</i>	0.032	0.90	0.006	0.26	-0.001	-0.05	-0.006	-0.23	-0.002	-0.07
<i>LOPC</i>	0.006	1.74*	0.006	2.39**	0.006	2.06**	0.003	1.13	0.000	0.03
<i>LEV</i>	0.004	0.36	-0.008	-0.70	-0.005	-0.43	-0.013	-1.13	-0.013	-1.18
<i>SIZE</i>	-0.005	-2.63***	-0.001	-0.87	-0.002	-0.93	-0.001	-0.35	0.001	0.36
<i>F_AGE</i>	-0.003	-0.78	-0.004	-0.90	-0.004	-0.91	-0.003	-0.70	0.000	0.05
Intercept	0.033	1.17	0.067	2.53**	0.072	2.43**	0.087	3.37***	0.002	0.08
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.174		.591		.611		.543		.536	
Observations	437		447		440		425		427	

Table 21 (continued)

Independent variable	Dependent variable									
	<i>AA_DD</i>		<i>AA_JI</i>		<i>AA_MJI</i>		<i>AA_J2</i>		<i>AA_MJ2</i>	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
<i>TOP5</i>	0.013	1.20	0.033	2.54**	0.031	2.28**	0.031	2.52**	0.033	2.36**
<i>ACE</i>	0.003	1.30	-0.001	-0.22	-0.001	-0.36	-0.003	-1.54	-0.005	-2.09**
<i>MTB</i>	-0.002	-0.98	-0.003	-1.02	-0.001	-0.48	0.000	0.10	-0.000	-0.20
<i>SGRWTH</i>	0.013	1.93*	-0.019	-1.91*	-0.015	-1.39	-0.010	-1.25	0.017	2.47**
<i>ROA</i>	0.177	4.95***	0.649	13.72***	0.722	14.28***	0.375	10.72***	0.329	8.64***
<i>CFO</i>	-0.070	-2.94***	-0.583	-12.24***	-0.677	-12.34***	-0.466	-12.17***	-0.438	-10.19***
<i>VOL</i>	-0.063	-2.07**	0.024	0.79	-0.022	-0.63	0.035	1.33	0.003	0.09
<i>LOPC</i>	-0.001	-0.25	0.003	1.16	0.004	1.00	0.003	1.41	0.003	1.37
<i>LEV</i>	0.018	1.73*	0.034	3.13***	0.033	2.77***	0.017	1.50	0.017	1.49
<i>SIZE</i>	0.001	0.32	0.003	1.47	0.002	1.01	0.004	2.22**	0.005	2.33**
<i>F_AGE</i>	-0.001	-0.26	0.001	0.17	-0.003	-0.53	0.008	1.61	0.006	1.25
Intercept	-0.029	-1.11	-0.006	-0.26	-0.077	-2.06**	-0.160	-5.15***	-0.023	-1.06
Industry dummies	Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes	
Adjusted $R^2$	.263		.637		.665		.520		.488	
Observations	436		436		443		458		456	

\*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed).

Standard errors adjusted for firm-level clustering are used to compute *t*-statistics.

All continuous variables are winsorized at 1% and 99% level.



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