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AUDIT COMMITTEE CHARACTERISTICS, FAMILY CONTROL AND EARNINGS MANAGEMENT: EVIDENCE BASED ON HONG KONG FIRMS AFTER THE CORPORATE GOVERNANCE REFORM IN 2004

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AUDIT COMMITTEE CHARACTERISTICS, FAMILY CONTROL AND EARNINGS MANAGEMENT: EVIDENCE BASED ON HONG KONG FIRMS AFTER THE CORPORATE GOVERNANCE REFORM IN 2004

WONG Ka Lok

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

March 2011

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WONG, Ka Lok

DEDICATION

To my beloved wife and son,

Athenie and Eddie

ABSTRACT

The existing literature mainly focuses on examining the effect of various audit committee characteristics on financial reporting quality. There are few studies which examine the economic determinants on audit committee characteristics. This study examines whether there is any association between family firms and audit committee characteristics.

In addition, empirical evidence on the association between various audit committee characteristics and earnings management are not conclusive. It is possible that certain audit committee characteristics that can reduce earnings management in the western developed countries may not be effective in Hong Kong/China business environment.

Cohen et al. (2008) observe that the theoretical focus of most audit committee studies are based on the agency theory. These studies based on agency approach implicitly assume that boards and audit committees that meet the standard or regulatory definitions of independence are more likely to be effective monitors of management's action. Although this approach provides many useful insights, one of the limitations is that independence in form may not be the same as independence in substance. This may be one of the reasons for the mixed results in prior studies that have examined the relationship between audit committee independence and earnings quality.

Another strand of literature (for example, Kalbers and Fogarty, 1998; Spira, 1999, Dillard et al., 2004; Beasley et al., 2009) uses the institutional theory perspective to describe or explain the audit committee process. Institutional theory suggests that sometimes organizations use symbolic gestures and activities to maintain their forms to other parties to gain legitimacy and enhance their chances of survival (Cohen et al., 2008). This study draws on both the agency and institutional theories as alternative corporate governance perspectives in hypotheses development.

This study uses the more detailed audit committee information made available after the corporate governance reform in 2004 to examine the relationship between various audit committee characteristics and earnings management using a large sample of Hong Kong listed firms. This study also examines how family firms may affect the association between audit committee characteristics and earnings management.

Results of regression analysis of 385 Hong Kong listed firms for the four year period immediately after the 2004 corporate governance reform show that family firms are associated with less audit committee independence and less financial expertise. In addition, using accruals quality as proxy of earnings management, I find that audit committee financial expertise (but not audit committee independence nor diligence) is associated with less earnings management.

I do not find any evidence that family firms nor firms that restructured their audit committees due to the corporate governance reform moderate the effectiveness of audit committee in constraining

earnings management. Furthermore, though family firms are associated with less audit committee independence and financial expertise, there is no evidence that family firms are associated with lower earnings quality.

In the additional analysis, I find that audit committee accounting financial experts (but not non-accounting financial experts) is associated with less earnings management for Hong Kong listed firms.

Overall, the results are more consistent with the agency theory perspective. The audit committees of Hong Kong listed firms seem to provide substantive monitoring instead of merely serving as symbolic displays of conformity based on the data made available by the corporate governance reform.

This study contributes to the literature by examining the association between family firms and audit committee characteristics. To the best of my knowledge, this is the first study that examines the association between family firms and detailed audit committee characteristics. Secondly, this is the first study that uses a large sample of Hong Kong listed firms to examine the relationship between various audit committee characteristics and earnings management. Finally, this is also the first study that examines whether family firms affect the effectiveness of various audit committee characteristics in constraining earnings management.

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CHAPTER 1 INTRODUCTION

1.1 Background of audit committee requirements in Hong Kong

Before 2004 the requirement to set up an audit committee for companies listed on mainboard of Hong Kong Stock Exchange and Clearing Co. Ltd. (HKEx) was voluntary. It was recommended that audit committees have a minimum of two members and were appointed amongst the non-executive directors and the majority of whom should be independent[1]. After the Enron debacle, HKEx issued a Consultation Paper on Proposed Amendments to the Listing Rules Relating to Corporate Governance Issues on January 2002 which ultimately led to the issuance of revised Listing Rule which took effect on 31 March, 2004.[2] According to the revised Listing Rule 3.21,

> "Every listed issuer must establish an audit committee comprising non-executive directors only. The audit committee must comprise a minimum of three members, at least one of whom is an independent non-executive director ("INED") with appropriate professional qualifications or accounting or related financial management expertise as required under rule 3.10(2). The majority of the audit committee members must be independent non-executive directors of the listed issuer. The audit committee must be chaired by an independent non-executive director".

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[1] Main Board listing rules Appendix 14, Code of best practices, Hong Kong Stock Exchange, updated August 2002.

[2] Amendments to the listing rules relating to corporate governance issues, initial listing criteria and continuing listing obligations, Update No.80, 31 March 2004.

As a result, the setup of audit committee becomes mandatory for all mainboard listed companies starting from 2004.

Furthermore, the Code on Corporate Governance Practices contain in Appendix 14 to the Rules Governing the Listing of Securities on the HKEx came into effect on 1 January 2005. Under which listed companies are required to include a corporate governance report in their annual reports. Among other things, a companies are required to disclose audit and non-audit services fee paid during the year, the composition of audit committee, number of committee meetings held and attendance by individual audit committee members.

In general, both the audit committee and disclosure requirements become more and more stringent over the period from 2003 to 2005. It changed from voluntary setup in 2003 to mandatory setup, more stringent independent and financial expertise requirements in 2004 and mandatory disclosure requirements in 2005.

1.2 Motivations for the study

Unlike in the US where Section 301 of the Sarbanes-Oxley Act of 2002 (SOX) currently requires 100% independent audit committees (Defond and Frances, 2005a; Bronson et al., 2009), HKEx only requires majority of the audit committee members be independent non-executive directors. Similar to that in the US, audit committee of Hong Kong listed companies may include either accounting or

non-accounting financial experts. For audit committee activity, the listing rules require audit committees to review the company's annual report and accounts, half-year report and quarterly reports, if any before submission to the board[3]. Since most of the Hong Kong listed firms do not prepare quarterly reports for publication, the minimum number of audit committee meetings is twice per year. Therefore after the corporate governance reform, there is still a lot of management discretion in the set up of audit committees in terms of independence, expertise and activity.

First of all, given the relatively more flexible audit committee requirements of HKEx and large number of family firms, this study uses Hong Kong listed firms to examine whether there is any association between family firms and audit committee characteristics including independence, expertise and diligence following the corporate governance reform in 2004. In addition, this study examines whether audit committees are effective in constraining earnings management of Hong Kong listed firms and whether family firms moderate the effectiveness of audit committee in this regard.

Secondly, the theoretical focus of most audit committee studies are based on the agency theory (Cohen et al., 2008). These studies examine how the monitoring roles of the board and the audit committee have been used to protect (or fail to protect) stockholder

[3] HKEx Listing Rules, Appendix 14 Code on Corporate Governance Practices, C.3(d).

rights, largely ignoring the effect management may have on the governance process. These studies based on agency approach implicitly assume that boards and audit committees that meet the standard or regulatory definitions of independence are more likely to be effective monitors of management's action. Although this approach provides many useful insights, one of the limitations is that independence in form may not be the same as independence in substance.

On the other hand, institutional theory suggests that sometimes organizations use symbolic gestures and activities to maintain their forms to other parties to gain legitimacy and enhance their chances of survival. It is probable that for the early audit committee adoptors, there are rational reasons to believe that audit committees will help to improve financial reporting quality. As audit committees become more widely adopted and subsequently mandated by regulators, it becomes almost a belief that setting up audit committees are equivalent to good corporate governance and good financial reporting quality. It is possible that audit committees could be performing a ceremonial function which through a display of concern for corporate governance standards, validates company legitimacy and enable access for resources for survival and growth (Spira, 1999). This study draws on both the agency and institutional theories as alternative corporate governance perspectives in hypotheses development.

1.3 Results of this study

This study uses the more detailed audit committee information made available after the corporate governance reform in 2004 to examine the relationship between various audit committee characteristics and earnings management using a large sample of Hong Kong listed firms. This study also examines how family firms may affect the associations between audit committee characteristics and earnings management. As audit committee data was not available before the reform, no attempt is made to compare the associations before and after the reform. In addition, the associations found in this study are not necessarily due to the corporate governance reform but may represent conditions existed before the reform.

Results of regression analysis of 385 Hong Kong listed firms for the four year period immediately after the 2004 corporate governance reform show that family firms are associated with less audit committee independence and less financial expertise. In addition, using accruals quality as proxy of earnings management, I find that audit committee financial expertise (but not audit committee independence nor diligence) is associated with less earnings management.

I do not find any evidence that family firms nor firms that restructured their audit committees due to the corporate governance reform moderate the effectiveness of audit committee in constraining earnings management. Furthermore, though family firms are associated with less audit committee independence and financial

expertise, there is no evidence that family firms are associated with lower earnings quality.

In the additional analysis, I find that audit committee accounting financial experts (but not non-accounting financial experts) is associated with less earnings management for Hong Kong listed firms.

Overall, the results are more consistent with the agency theory perspective. The audit committees of Hong Kong listed firms seem to provide substantive monitoring instead of merely serving as symbolic displays of conformity based on the data made available by the corporate governance reform.

1.4 Contributions of this study

This study contributes to the literature by examining the association between family firms and audit committee characteristics. To the best of my knowledge, this is the first study that examines the association between family firms and detailed audit committee characteristics. Secondly, this is the first study that uses a large sample of Hong Kong listed firms to examine the relationship between various audit committee characteristics and earnings management. Finally, prior studies typically compare financial reporting quality between family and non-family firms (Wang, 2006; Ali et al., 2007) or how family firms may affect the effectiveness of independent directors in constraining earnings management (Jaggi et al., 2009). This is the first study that examines whether family firms affect the effectiveness

of various audit committee characteristics in constraining earnings management.

1.5 Organization of this study

The rest of the study is organized as follows. Chapter 2 reviews the extant literature related to agency theory, corporate governance, earnings management, audit committees, family firms and alternative perspective to corporate governance. Chapter 3 develops the hypotheses. Chapter 4 sets out the research design, including the sample selection procedures and research methodology and empirical results are reported and discussed in Chapter 5. Chapter 6 concludes the study.

CHAPTER 2 LITERATURE REVIEW AND THEORETICAL BACKGROUNDS

2.1 Introduction

This section reviews the literature on agency theory, corporate governance, earnings management, audit committees, family firms and alternative perspective to corporate governance. Section 2.2 reviews literature on agency theory. Section 2.3 reviews literature on corporate governance and discusses the association between corporate governance and firm performance. Section 2.4 presents the definition, motives and measures of earnings management. Section 2.5 reviews literature on the association between corporate governance and earnings quality with particular focus on audit committee characteristics and earnings management. Section 2.6 discusses the determinants of audit committee characteristics. Section 2.7 reviews studies related to family firms in both the US and Hong Kong. Section 2.8 presents an alternative perspective to corporate governance, namely, the institutional theory perspective.

2.2 Agency theory

2.2.1 Overview

The literature on the agency problem dates back to at least Berle and Means (1932). While discussing the rise of modern corporations and dispersion of stock ownership, Berle and Means raise a concern

about the separation of ownership and control. In their words,

> "The stockholder is left with …… little more than the loose expectation that a group of men, under a nominal duty to run the enterprise for his benefit and that of others like him, will actually observe this obligation. In almost no particular is he in a position to demand that they do or refrain from doing any given thing." (p.244).

In a similar vein, Alchian and Demsetz (1972) discuss agency costs in situations involving cooperative effort by two or more people (i.e. team production process). They discuss the problem of shirking and monitoring among input owners and suggest that a central monitor who holds the residual claim would minimize the cost of team production.

Jensen and Meckling (1976, p.308) define an agency relationship "as a contract under which one or more person (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". Since the agent may have personal interests which are different from that of the principal, the principal needs to establish appropriate incentives for the agent and incur monitoring costs to limit the divergence of interests by the agent. Jensen and Meckling further define agency costs as the sum of (1) the monitoring expenditures by the principal, (2) the bonding expenditures by the agent[4], (3) the

[4] In some situations, the principal will pay the agent to expend resources (bonding costs) to guarantee that he will not take certain actions which would harm the

residual loss[5].

Jensen and Meckling (1976) and Alchian and Demsetz (1972) based on the works of Coase (1937, 1960) viewed the firm as a set of contracts among factors of production, with each factor motivated by its self-interests (Fama, 1980). Jensen and Meckling (1976, p.311) define the firm as:

> "The private corporation or firm is simply one form of legal fiction which serves as a nexus for contracting relationships and which is also characterized by the existence of divisible residual claims on the assets and cash flows of the organization which can generally be sold without permission of the other contracting individuals…… There is in a very real sense only a multitude of complex relationships (i.e. contracts) between the legal fiction (the firm) and the owners of labor, material and capital inputs and the consumers of output."

> "The firm is not an individual. It is a legal fiction which serves as a focus for a complex process in which the conflicting objectives of individuals are brought into equilibrium within a framework of contractual relations."

Jensen and Meckling argue that the relationship between stockholders and managers of a corporation fit the definition of agency relationship and due to the separation of ownership and control, the

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principal or to ensure that the principal will be compensated if he does take such actions (Jensen and Meckling, 1972 p.308).

[5] This represents the reduction in welfare experienced by the principal due to divergence of interests between the principal and agent. (Jensen and Meckling, 1972 p.308).

modern widely-held corporation are closely associated with agency problem.

Fama and Jensen (1983) suggest that an organization's decision process consists of decision management (initiation and implementation) and decision control (ratification and monitoring). They argue that what the literature commonly call the separation of ownership and control should be better defined as the separation of residual risk bearing from decision management. Jensen and Fama argue that a fundamental principle to resolve the agency problem is that it is necessary to separate decision control and decision management when the executive is not the owner of the firm. They argue that by separating residual risk bearing from decision management, better decisions can be achieved by delegating decision functions to agents who have relevant specific knowledge. In addition, separation of decision management and decision control at all organizational levels helps to control agency problem by limiting the power of individual agents in expropriating the residual claimants. This decision control system typically reaches its highest point at the board of directors.

In summary, agency theory is concerned with the agency problem that exists when there is an agency relationship. The agency problem occurs when the agent has goals that are different from that of the principals (Alchian and Demsetz, 1972, Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976; Ross, 1972). As summarized by

Ekanayake (2004), the premise of agency theory is that agents are self-interested, risk-averse, rational actors, who always attempt to exert less effort (moral hazards) and project higher capabilities and skills than they actually have (adverse selection). Agency theory attempts to resolve two problems relating to the agency problem. The first is the monitoring problem that arises because the principal cannot verify whether the agent has behaved appropriately. The second is the problem of risk sharing that arises when the principal and the agent have different attitudes towards risk.

2.2.2 Corporate ownership structure

The agency problem arises due to separation of ownership and control. It is therefore closely linked to the corporate ownership structure. Jensen and Meckling (1976) show that when the amount of outside equity increases, the owner's fractional claim on the firm falls. He will be induced to take additional non-pecuniary benefits out of the firm because his share of cost falls. Fama and Jensen (1983) also point out that in certain situations, it is efficient to control agency problems between residual claimants and decision makers by restricting residual claims to the decision makers. Demsetz and Lehn (1985) find that instability of profit rate is associated with more concentrated ownership structure. They argue that in unpredictable environments such as unstable price, unstable technology and unstable market shares, etc., it is more difficult to monitor a manager's performance. Therefore, for such firms, there is a greater payoff to owners maintaining tight control through concentrated ownership.

Shleifer and Vishny (1997) suggest that the most direct way to align cash flow and control rights of outside investors is to concentrate shareholdings to become a large shareholder such as a substantial minority holder or even majority holder. A large shareholder can address the agency problem as he has the incentive to collect information to monitor management and has sufficient voting rights to put pressure on management.

Shleifer and Vishny observe that large shareholders are relatively uncommon in the United States and the United Kingdom but large shareholdings in some forms are the norm in the rest of the world. For example, in Germany, large commercial banks often control over a quarter of the votes in major companies. For smaller German companies, the norm is family control through majority ownership or pyramids. The same is true for smaller companies in Asia Pacific countries. Claessens et al. (2000) using a benchmark of 10% ultimate control find that over 50% of publicly traded corporations in Hong Kong, Indonesia, Korea, Malaysia Singapore, Taiwan and Thailand are in family hands. For Japan, about 38% of public companies are controlled by widely held financial institutions.

The benefits of large investors are relatively clear. They have both the incentives to monitor management and ability to influence management decisions through exercising their voting rights. However, there are also costs to large investors. For example, large investors may try to treat themselves preferentially at the expense of

other investors. The incentives would be even larger if the control rights of the large investor are significantly in excess of the cash flow rights through pyramid holding structure. They can exploit the other investors by paying themselves special dividends or exploiting their business relationships with the companies that they control (Shleifer and Vishny, 1997; Armstrong et al., 2010).

Morck, Shleifer, and Vishny (1988) examine the relationship between cash flow ownership of the largest shareholders and profitability of firms and find that profitability rises when ownership percentage of the largest shareholder increased from 0 to 5 percent. One interpretation is that increased ownership concentration at the beginning reduces agency costs. However, as the ownership concentration increases, the large shareholder becomes entrenched and prefers to use the firm to generate private benefits of control.

Warfield et al. (1995) focus on the correlation between earnings and returns, show that the correlation more than doubles as managerial ownership increases. They also find that the absolute value of discretionary accruals for corporations with under 5 percent managerial ownership more than doubles compared with corporations with over 35 percent managerial ownership. However, Fan and Wong (2002) examines the relations between earnings informativeness and ownership structure of companies in East Asian economies find that concentrated ownership is associated with low earnings informativeness. Their results are consistent with the entrenchment

argument. They suggest that due to the pyramid holding structure and therefore large separation of ownership and control (common in East Asia) has weakened the earnings informativeness to outside investors. This is because minority shareholders expect that the controlling shareholders have both the ability and incentive to manipulate earnings for expropriation and to report uninformative earnings to avoid detection of their expropriation activities.

However, expropriation of minority shareholders by the large investors will eventually lead to a decline in external financing. Shleifer and Vishny (1997) suggest that this may be the reason why countries with low levels of protection of minority shareholder rights such as Italy, Germany and France have relatively small public equity markets.

2.2.3 Agency problems of family firms

There are two main types of agency problems in a firm which is well documented in the literature (Ali et al., 2007). The first type of agency problem arises from the separation of ownership and management (Type I agency problems). The separate of corporate managers from shareholders may lead to managers acting in their own personal interests instead of for the best interests of the shareholders. The second type of agency problem arises from conflicts between controlling and non-controlling shareholders (Type II agency problems). Controlling shareholders may seek to maximize their own interests at the expenses of minority shareholders.

There are several characteristics of family firms that reduce the likelihood of type I agency problems. First, families usually hold undiversified and concentrated equity position in their firms and therefore have strong incentives to monitor managers. Second, families have good knowledge about their firms and therefore more effectively monitor managers. Third, families tend to have long investment horizons and focus less on short term earnings numbers. As a result, family firms are less susceptible to type I agency problems than non-family firms.

On the other hand, there are other characteristics of family firms that increase the likelihood of the type II agency problems. First, families usually enjoy substantial control due to their concentrated equity holding in their firms and dominate the board of directors. These give the family power to seek private benefits at the expense of the minority shareholders. Therefore, family firms are more susceptible to type II agency problems than non-family firms (Anderson et al, 2003; Anderson and Reeb 2004; Srinidhi et al., 2010). However, if families engage in private rent seeking, the market may discover such activities and the families may suffer due to lower equity value, especially since families have concentrated ownership. In addition, in some countries such as the U.S., there is strong legal protection to minority shareholders which deters private rent seeking by families.

2.3 Corporate governance

2.3.1 Definition

The term "corporate governance" is used extensively by academics, business managers, regulators, the media and general public. Nevertheless, there is no consensus as to what constitutes "corporate governance" nor is there a widely accepted definition. Larcker et al. (2007) observe that the empirical research produces mixed results on the association between typical measures of corporate governance and various accounting and economic outcomes. They argue that this is partially due to the difficulty in generating reliable and valid measures for the complex construct that is termed "corporate governance". Brickley and Zimmerman (2010) suggest that it is a myth to believe that general agreement exists on the definition of corporate governance.

Different researchers have different definitions of corporate governance. For example, Armstrong et el. (2010, p.7) consider corporate governance "as the subset of a firm's contracts that help align the actions and choices of managers with the interests of shareholders." Brickley and Zimmerman (2010, p.4) define corporate governance more broadly as, "the system of laws, regulations, institutions, markets, contracts, and corporate policies and procedures (such as internal control systems, policy manuals, and budgets) that direct and influence the actions of the top-level decision makers in the corporation (shareholders, boards, executives)". Shleifer and Vishny (1997) provide an intuitive and vivid definition of corporate

governance, "our perspective on corporate governance is a straightfoward agency perspective, sometimes referred to as separation of ownership and control. We want to know how investors get the managers to give them back their money." According to Shleifer and Vishny, corporate governance is about how suppliers of finance to corporations assure themselves of getting a return on their investment. How do they make sure the managers do not steal from the company or invest in bad projects? How do suppliers of finance control managers?

The choice of definition defines the scope of the study and focus of analysis. For example, Armstrong et al. using a more restrictive definition focus their attention on the structure of the board of directors and underlying subcommittees (such as audit committee) and executive compensation contracts. On the other hand, using a broader definition, Brickley and Zimmerman also look at other governance mechanisms such as active and institutional investors, debt contracts, and anti-takeover policies. In addition, different definitions may lead to different objectives of corporate governance. For Armstrong et al., the implicit objective of corporate governance is to maximize shareholders' wealth. On the other hand, Brickley and Zimmerman take a broader stakeholder view which includes not just shareholders but also creditors, employees and other stakeholders. Therefore, the objective of corporate governance is to maximize the well-being of all these stakeholders instead of just the shareholders.

This study focuses on examining the effectiveness of audit committee as one of the internal corporate governance mechanisms that is most closely related to financial reporting.

2.3.2 Corporate governance, firm performance and credit ratings

Shareholders and managers have conflicting interests due to separation of ownership and control and information asymmetry. As a result, managers have incentives and ability to maximize their own interests at the expenses of the shareholders. Some examples of manager self-interested behavior include empire building, consumption of corporate resources as perquisites, the avoidance of optimal risk investments, and manipulating earnings numbers to optimize compensation. Contracts alone are not always enough to resolve these conflicts. Consequently, the owners need to establish governance mechanisms to monitor managerial activities and deter undesirable managerial behavior (Jensen and Meckling, 1976; Dey 2008).

Dey (2008) uses firm size, organizational complexity, ownership structure, growth, leverage, operating risk, and free cash flows as measures of the level of agency conflicts in firms. He finds evidence that governance structures related to the board of directors, the audit committee, and the auditor, are positively related to the level of agency conflicts in firms. In other words, firms with greater agency conflicts have better governance mechanisms in place. Dey's

results suggest that the existence and role of various governance mechanisms in a firm are a function of the level of agency conflicts in the firm.

In theory, good corporate governance should mitigate agency conflicts and ultimately improve firm performance. Mitton (2002) using a sample from Indonesia, Korea, Malaysia, the Philippines and Thailand, finds that firm-level governance variables (e.g. disclosure quality and outside ownership concentration) had a strong impact on firm performance during the East Asian financial crisis of 1997-1998. Larcker et al. (2007) using exploratory principal component analysis identifies 14 dimensions to corporate governance based on 39 structural measures (e.g. board characteristics, stock ownership, existence of debtholders, executive compensation mix and anti-takeover variables). They find that these indices have some ability to explain future operating performance and future excess stock returns. Similarly, Dey (2008) find that the composition and the functioning of the board, independence of the auditor, and the equity-based compensation of directors are significantly associated with firm performance for firms with high agency conflicts. That is, firms with high agency conflicts and strong governance are associated with better firm performance.

Bhorjraj and Sengupta (2003) find that firms with more independent boards and greater institutional ownership have lower bond yields and higher debt ratings. Using a broader set of

governance variables, Ashbaugh et al. (2006) find that credit ratings are positively related to the degree of financial transparency, overall board independence, board stock ownership and board expertise and negatively related to CEO power on the board. They show that firms that have desirable governance characteristics from a bondholder's perspective almost doubles the probability of receiving an investment-grade credit rating. Srinidhi et al. (2010) also find strong governance family firms have higher credit ratings than other family firms. In summary, the results generally support the assertion that firms with better corporate governance are associated with better firm performance and credit ratings.

2.4 Earnings management

Due to agency problem, managers may engage in empire building, consumption of perquisites, avoidance of optimal risk investments and manipulation of earnings numbers to maximize their own compensation in term of bonus payments and/or stock options. These behaviors not only adversely affect a firm's performance but also its financial reporting quality. In this section, I review the definition of earnings management, accounting tricks companies used to manage their earnings, motives for earnings management and various measures for earnings management used in the literature. The relationship between corporate governance and earnings quality is examined in section 2.5.

2.4.1 Definition and type of earnings management

Healy and Wahlen (1999) define earnings management as the alteration of firms' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes (see also Leuz et al., 2003). There are two types of earnings management, namely, accrual-based earnings management and real activities manipulation.

Accrual-based earnings management arises from managerial discretion allowed under accounting standards and accrual accounting. Accrual accounting requires recording economic transactions at the time of occurrence instead of at the time of actual cash receipts or payments. Accrual accounting in principle should provide a better matching of revenue and expenses during a reporting period. This is supported by the results of Dechow (1994) who shows that accrual-based earnings compared with cash flows are better measures of firm performance. However, earnings quality will decrease if managers use discretionary accruals to manage earnings opportunistically.

On the other hand, earnings can be manipulated by real activities. For example, managers may use price discounts to temporarily increase sales, overproduction to report lower cost of goods sold, and through delay or reduction of discretionary expenses to improve current period earnings (Roychowdhury, 2006; Cohen et al., 2008).

In this study, I focus on accrual-based earnings management because the audit is responsible for detecting financial statement misstatements or accrual-based earnings management. Detecting real earnings management is outside the work scope of the audit committee.

2.4.2 The numbers game

According to Levitt (2002, p.117), earnings management is becoming more prevalent over time. During the period from 1997 and 2000, 700 US companies found flaws in past financial statements and restate their earnings. By comparison, only three companies had restated earnings in 1981. The restatements cost investors dearly with whose shares suffering significant loss in market value.

Management engages in earnings management to meet performance targets and increase their bonuses. Management may also manage earnings and thus stock price to maximize their gains on stock options. Levitt (2002) lists a number of accounting tricks which companies use to play the numbers game. For example, companies may push expenses into the category of unusual, one-time, or nonrecurring costs. They would add such expenses back into their earnings and call the result "pro forma" earnings which is not a GAAP measure. Management usually uses the pro forma numbers to downplay any negative factors that affect performance. A recent example is Manulife Financial Corporation, a Canada-based insurance company, which reported a net loss of C$2.4 billion for the second

quarter, 2010. The company also reported an adjusted earnings from operations (a non-GAAP financial measures) of C$0.7 billion profit. The adjusted earnings from operations is essentially a kind of "pro forma" earnings. The huge difference is due to the non-GAAP measure excluding non-cash mark-to-market charges of C$1.7 billion related to equity market declines and non-cash mark-to-market charges of C$1.5 billion related to the decline in interest rates[6]. The management tried to downplay the huge loss by suggesting these items represent one-off non-cash charges and they will disappear if the equity market picks up and interest rate recovers from historical low level.

The other accounting trick is taking big-baths. When companies restructure their businesses, they sell off unprofitable businesses, lay off workers and shut down manufacturing facilities. This together with other costs requires the company to take one-time restructuring charges. The problem is that management may include other non-restructuring related expenses into the one-time restructuring charges. By front-loading several years of expected future expense into one big restructuring charge, management try to create the impression that the company has turned around after the restructuring.

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[6] Press release reporting second quarter results by Manulife Financial Corporation dated August 5, 2010.

To boost future performance, sometimes companies create cookie jar reserves by intentionally overestimating future liabilities such as bad debt, inventory provision, warranty costs, sales returns, etc. In this way, they create unnecessary reserves in good times which can be used to smooth earnings in bad times.

Revenue recognition is another area where companies may manipulate earnings. Some sales are not straightforward. For example, the majority of Xerox Corporation's equipment sales revenues were generated from long term lease agreements where customers paid a single monthly fee for equipment, service, supplies and financing (called bundled leases). Xerox accelerated the lease revenue recognition by allocating a larger portion of the fee payment to the equipment, instead of service and financing activity. GAAP allows the companies to recognize the profits from sales of equipment if it meets the requirements of sale-type lease. However, non-equipment revenues such as service and financing are required to be recognized over the term of the lease. By engaging in this and other accounting manipulations, Xerox increased its pretax profits during 1997 to 1999 by US$1.6 billion. Xerox's stock, which traded at over US$60 per share dropped to less than US$5 per share in 2000 after the questionable accounting practices were made public[7].

[7] Auditing Cases, 3rd Edition (2005) by M. Beasley, F. Buckless, S. Glover, D. Prawwitt, Pearson Education Inc.

There are numerous accounting tricks that companies used to play the numbers game. The above are just a few examples. Most of these manipulations involve accounting judgment and estimates and are legal. However, most of these manipulations effectively transfer profits from future periods to the current period. This inevitably creates even greater pressure for management to meet analyst expectations in future periods. In the long run, this may lead to earnings restatement or even force management to cross the line to engage in outright fraudulent financial reporting. The result is either a significant decrease of market value or even demise of the company concerned.

Many large scale accounting frauds began with relatively small manipulations. An example is from Nick Leeson, the rogue trader who engaged in unauthorized trading activities and fraudulent reportings at Barings Future Singapore. In his book, Leeson confessed that his attempt to cover up a tiny trading error of £20,000 by a novice broker back in 1992 had started the ball rolling and ultimately led to the collapse of Barings Bank in 1995[8].

2.4.3 Motives for earnings management

There are two motives for earnings management, namely, managerial opportunism and private information signalling.

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[8] Leeson, N., Whitley, E., 1996, p.7. Rogue trader: how I brought down Barings Bank and shock the financial world. Boston, MA: Little, Brown and Company.

According to the managerial opportunism hypothesis, discretionary accruals are employed to hide poor performance or postpone a portion of unusually good current earnings to future years. According to the performance measure hypothesis, discretionary accruals help managers produce a reliable and more timely measure of firm performance (Guay et al., 1996).

Guay et al. (1996), Subramanyam (1996) and Francis et al. (2005) using broad samples find that on average firms use discretionary accruals to improve earnings as a performance measure. Guay et al. argue that "Given that managerial discretion over accruals has survived for centuries, our prior is that the net effect of discretionary accruals in the population is to enhance earnings as a performance measure." (see also Bowen et al., 2008)

However, there are also studies that find evidence of management opportunism. Healy (1985) finds that accrual policies of managers are related to income-reporting incentives of their bonus contracts, and changes in accounting procedures by managers are associated with adoption or modification of their bonus plan. DeAngelo (1988) finds that during proxy contests for board seats, incumbent managers apparently exercise accounting discretion to show favourable earnings numbers to voters. On the other hand, incoming managers tend to take an immediate earnings bath, which they typically blame on the poor decisions of outgoing management which enables them to report increased earnings in the following year.

2.4.4 External monitoring

Other than internal governance structures such as audit committees, external monitoring such as large institutional shareholders and reputable auditors also help to constrain earnings management. For example, Chung et al. (2002) find that the presence of large institutional shareholdings inhibit managers from increasing or decreasing reported profits towards the managers' desired level or range of profits. This suggests monitoring by institutional investors constrains the self-serving behavior of corporate managers. Kim et al. (2003) show that when managers have incentives to prefer income-increasing accrual choices, Big 6 auditors are more effective than non-Big 6 auditors in deterring opportunistic earnings management.

2.4.5 Measures of earnings management

2.4.5.1 Traditional measures

The earliest earnings management measures used in the literature include the Healy model (Healy, 1985), the DeAngelo model (DeAngelo, 1986) and industry model (Dechow and Sloan, 1991). The Healy and DeAngelo models assume that nondiscretionary accruals for the same firm are constant over time. The industry model assumes that variations in the determinants of nondiscretionary accruals are common across firms in the same industry.

Jones (1991) proposes a model that relaxes the assumption that nondiscretionary accruals are constant. The Jones model attempts to

control for the effect of changes in a firm's economic circumstances (i.e. change in revenue and amount of gross property, plant and equipment) on nondiscretionary accruals. Dechow et al. (1995) suggest a modified version of Jones model in which the only adjustment is that the change in revenues is adjusted for the change in receivables in the event period. The rationale being the original Jones model implicitly assumes that discretion is not exercised over revenue in the estimation or the event period. However, the modified Jones model implicitly assumes that all changes in credit sales in the event period result from earnings management. This is based on the argument that it is easier to manipulate credit sales than cash sales.

Dechow et al. (1995) evaluate the five models and find that the modified Jones model is most powerful in detecting earnings management. Guay et al. (1996) find that the Healy, DeAngelo and industry models are not effective in isolating discretionary accruals. They suggest that only the Jones and modified Jones models have the potential to provide reliable estimates of discretionary accruals. Similarly, Bartov et al. (2001) using a sample of firms with qualified audit reports show that the cross-sectional Jones / modified Jones models perform better than the other models in detecting earnings management.

Dechow et al. (1995, p193) conclude that "all models reject the null hypothesis of no earnings management at rates exceeding the specified test levels when applied to samples of firms with extreme financial performance." Ashbaugh et al. (2003) challenges the findings of Frankel et al. (2002) on the association between fee ratio (i.e. ratio of non-audit fees and total fees) and income-increasing discretionary accruals. Ashbaugh et al. argue that they do not find significant results after adjusting discretionary current accruals for firm performance. Along the same lines, Kothari et al. (2005) suggest that performance matching on return on assets controls for the effect of performance on measured discretionary accruals and the performance-matched discretionary accruals measures enhance the reliability of inferences.

However, discretionary accrual models of earnings management have limitations. The measurement of discretionary accruals is controversial owing to contention as to whether discretionary accruals can be isolated from non-discretionary accruals with precisions (Guay et al., 1996). In addition, it is argued that discretionary accruals could signal manager's private information to outsiders and therefore helps managers to produce a more timely measure of firm performance. Therefore, discretionary accruals are not necessarily due to opportunistic earnings management (Guay et al., 1996; Bowen et al, 2008; Armstrong et al., 2010).

Under the performance measure hypothesis, discretionary accruals will reduce information asymmetry between managers and financial statement users and help users to make more informed decisions. On the other hand, under the managerial opportunism hypothesis, discretionary accruals are used to hide real performance and mislead users of financial statements. However, it is difficult to distinguish between the two unless the research is carried out in a specific context (e.g. debt covenants, IPOs, granting or exercise of managerial stock options, etc.) in which one of the hypotheses is expected to dominate.

2.4.5.2 Recent developments

Dechow and Dichev (2002) consider that one role of accruals is to adjust the recognition of cash flows over time so that the adjusted numbers (earnings) better measure firm performance. However, accruals require assumptions and estimates of future cash flows. They argue that the quality of accruals and earnings is decreasing in the magnitude of estimation error in accruals. Based on the above argument, Dechow and Dichev suggest a new measure of accruals quality ("AQ") which is defined as the residuals from firm-specific regressions of changes in working capital on past, present, and future operating cash flows. In other words, accruals quality measures the extent to which working capital accruals map into operating cash flow realizations, where a poor match signifies low accruals quality.

McNichols (2002) extends the Dechow and Dichev (2002) model by adding change in revenue and gross property, plant and equipment to explain total current accruals. Francis et al. (2005) further decompose accruals quality into discretionary and innate components by using firm size, standard deviation of cash flow from operations, standard deviation of sales, operating cycle, and incidence of losses to estimate the innate component of accruals quality. Discretionary accruals quality is defined as the residual accruals quality which cannot be explained by the five innate factors above. Discretionary accruals quality is regarded as more prone to managerial manipulation.

2.5 Corporate governance and earnings quality

2.5.1 Overview

Corporate governance is a broad concept which includes legal protection of investors, ownership concentration, board structures such as CEO duality, independence and expertise of board and audit committees, etc. According to Bushman and Smith (2001, p.238),

> "Corporate control mechanisms are the means by which managers are disciplined to act in the investors' interests. Control mechanisms include both internal mechanisms, such as managerial incentive plans, director monitoring, and internal labor market and external mechanisms, such as outside shareholder or debtholder monitoring, the market for corporate control, competition in the product market, the external managerial labor market, and securities laws that protect outside investors against expropriation by corporate insiders."

There are a large number of studies related to corporate governance and earnings quality. For example, Petra (2007) finds a positive association between the proportion of outside independent directors on the board of directors and earnings response coefficient. Petra suggest that the results are due to the market believes that outside independent directors improve the monitoring ability of the board and reduces manager's ability to manipulate earnings.

Bushman et al. (2004) find that strong governance systems characterized by high ownership concentration, strong directors' and managers' equity-based incentives and high quality outside directors are negatively related to the timeliness of earnings. They argue that low earnings timeliness increases demands on corporate governance systems to alleviate agency problems resulting from more serious information asymmetry between managers and shareholders.

For studies related to corporate governance and earnings management, there are country-level studies such as Leuz et al. (2003) find that earnings management is more pervasive in countries where the legal protection of outside investors is weak. This is because in these countries insiders enjoy greater private control benefits and therefore have stronger incentives to conceal firm performance. For firm level studies, Agrawal and Chadha (2005) find that the probability of restatement is lower in companies whose boards have an independent director with financial expertise. However, the probability of restatement is higher for companies where the chief

executive officer belongs to the founding family. Davidson et al. (2005) find that where there is a majority of non-executive directors on the board, there is significantly less earnings management, as measured by absolute discretionary accruals. Similarly, Peasnell et al. (2005) using a sample of UK firms found that likelihood of managers making income-increasing abnormal accruals to avoid reporting losses and earnings decreases is negatively related to board independence.

On the other hand, Larcker et al. (2007) using exploratory principal component analysis finds 14 factors (based on 39 individual governance indicators) exhibit a mixed association with abnormal accruals and little relation to accounting restatements. They therefore conclude that the typical governance indicators only have a modest ability to explain accounting manipulation.

Extremely low earnings timeliness and excessive earnings management may ultimately lead to earnings restatements or accounting fraud. The empirical results on the relation between board structure and the incidence of earnings restatements or accounting fraud is mixed. Beasley (1996), Dechow et al. (1996) and Farber (2005) find a lower incidence of SEC accounting enforcement actions for firms with higher board independence. In contrast, Gerety and Lehn (1997) do not find any significant relationship between board independence and SEC enforcement actions. Agrawal and Chadha (2005) also find no significant relationship between board independence and earnings restatements.

Other than board structure, some studies examine the association between CEO/Chairman duality and earnings management. CEO/Chairman duality is common in family or smaller firms. Market participants generally view CEO/Chairman duality as a sign of weak corporate governance. For example, the Listing Rules of HKEx require segregation of roles of chairman and CEO as a minimum standard in the Code of Best Practice and require listed firms to disclose in their annual reports whether these two roles are segregated. It is believed that greater concentration of CEO/Chairman power may lead to higher likelihood of accounting irregularities. Beasley (1996), Dechow et al. (1996) and Agrawal and Chadha (2005) also examine the relation between accounting irregularities and CEO/Chairman duality. Dechow et al. (1996) find that SEC enforcement actions are more frequent for firms with CEO/Chairman duality. However, neither Beasley (1996) nor Agrawal nor chadha (2005) find such a relation.

In summary, whilst some studies find that strong governance indicators such as high board independence, separation of the CEO and chairman roles are associated with better earnings quality, the results are inconclusive. The association between corporate governance and earnings quality remains an open question.

2.5.2 Role of financial reporting in corporate governance

Corporate governance primarily deals with the agency problem. Managerial opportunism could be in the form of expropriation of

investors or misallocation of company funds. A solution to the agency problem is to grant manager a highly contingent, long term contract beforehand to align his interests with those of the investors. Although high-powered incentive schemes such as stock-based compensation schemes motivate managers to take value-enhancing actions, they may also induce manipulative actions that boost the short-term stock price at the expense of long-term shareholder value (Laux and Laux, 2009). For example, Cheng and Warfield (2005) find managers with equity incentives such as stock-based compensation and stock ownership are more likely to report earnings that meet or just beat analysts' forecasts. They argue that managers' equity incentives lead to incentives for earnings management.

With respect to governance, high quality financial reporting helps to reduce information asymmetries between managers, outsider directors and shareholders. Managers who are involved in the day-to-day operations of the companies typically have better firm-specific information than outside directors and shareholders. Jensen (1993) describes the information problem as follows:

> "Serious information problems limit the effectiveness of board members in the typical large corporation. For example, the CEO almost always determines the agenda and the information given to the board. This limitation on information severely hinders the ability of even highly talented board members to contribute effectively to the monitoring and evaluation of the CEO and the company's strategy."

Similarly, Bushman and Smith (2001) suggest that financial accounting information is a direct input to corporate control mechanisms designed to guide managers' selection of good investments and reduced expropriation of investors' wealth by managers.

Due to the agency problem, managers may not report information that would adversely affect their personal interests. For example, managers may withhold information indicating poor performance, or extraction of private benefits (Verrecchia, 2001). One role of financial reporting is to provide outside directors and shareholders with complete, relevant and reliable information that helps to monitor management.

2.5.3 The auditing process

The effectiveness of financial reports to aid outside directors and shareholders to monitor management are based on the assumption that the financial reports are true and fair. That is, they are prepared following the relevant accounting standards and based on reasonable judgment and estimates. The auditing process is a corporate governance mechanism that provides such assurance.

Many papers document that a high quality auditor (typically large auditors such as Big-4 auditors) are associated with higher financial reporting quality. This is due to large auditors having higher reputation and financial capital at risk in case of audit failure. For example, Francis et al. (1999) argue that managers choose high quality

auditors as a bonding mechanism to credibly constrain their ability to opportunistically manipulate the financial statements and find that Big-6 auditors are associated with lower discretionary accruals (see also Becker et al., 1998).

Other papers documents that high quality auditors are associated with higher earnings response coefficients (Teoh and Wong, 1993) and a lower incidence of litigation (Palmrose, 1988). Weber and Willenborg (2003) find that for larger auditors the presence of a pre-IPO going concern opinion is more strongly associated with first-year stock returns and that larger auditors are more likely to give such opinions to their distressed clients. Kim et al. (2003) show that when managers have incentives to prefer income-increasing accrual choices, Big-6 auditors are more effective than non-Big-6 auditors in deterring opportunistic earnings management.

Though the literature generally supports the notion that large auditors are associated with higher financial reporting quality, some papers do not find such association. For example, Dechow et al. (1996) and Agrawal and Chadha (2005) find no relation between large auditors and the incidence of SEC accounting enforcement actions and earnings restatements. Piot and Janin (2007) also find that the presence of Big-5 auditors makes no difference regarding earnings management activities in France.

In addition, prior studies show that Big-8 auditors earn higher audit fees than non-Big-8 auditors due to quality differentiation in the audits (Francis and Stokes, 1986; Palmrose, 1986). Craswell et al. (1995) using firm-level data show that Big-8 auditors who are industry specialist auditors can earn fee premium over non-specialist Big-8 auditors in their specialized industries. However, Ferguson and Stokes (2002) using data after the post-Big-8 and Big-6 mergers do not find strong support for the presence of industry specialist premiums in the postmerger years.

Ferguson et al. (2003) using both firm-wide (national) data and city-specific (office) data to identify industry leaders and test the joint effect of firm-wide industry expertise and office-specific industry expertise on audit fees. Their results show that Big-5 auditors earn an average fee premium of 24 percent when they are one of the top two firms nationally and are also the city-specific industry leader. They further find that the top two firms nationally do not earn a fee premium if they are not also the city leader. Ferguson et al. suggest that the results provide support for the office-level but not the firm-wide view of auditor industry expertise (see also Ferguson et al., 2006).

2.5.4 The audit committee

If we focus on the internal governance structures of a firm, it can be divided into audit related and board related governance structures (Koh et al., 2007). Audit related governance structures refer to governance mechanisms that have direct roles in the financial reporting

process such as an independent and active audit committee. Board related governance structures refer to governance mechanisms that have indirect roles in the financial reporting process, such as CEO/chairman duality and board independence.

The audit committee is responsible for overseeing the auditing process such as appointing auditors, negotiating audit fees and communicating with the auditors regarding significant internal control and audit issues. Gendron et al. (2004) conducted a survey to identify important functions of audit committees. The results show that audit committee is particularly concerned with the accuracy of information contained in the financial statements, appropriateness of the wording used in the financial reports, effectiveness of internal controls and the quality of work performed by external auditors.

The audit committee is the internal governance mechanism that is most closely related to the financial reporting process. According to Levitt (2002, p.118), the solution to curb earnings management rests on three pillars. First, regulators and accounting standard setters has to improve transparency of financial statements and ensure companies adhere to the letter and spirit of GAAP. Second, auditing profession has to strengthen its commitment to independence and discipline auditors for audit failures. Thirdly, corporate managers should change their culture from meeting analyst expectations at all costs to that of letting the accounting numbers tell the true story. Audit committee plays a significant role in the latter two pillars. By making

the auditor appointment decision independently, audit committee should help enhance auditor independence. Furthermore, to maintain their reputation as monitoring experts, audit committees should be concerned with financial reporting quality instead of meeting analyst expectations.

DeFond and Jiambalvo (1991) find that the incidence of accounting errors is less likely where audit committees are present. Dechow et al. (1996) find that the incidence of SEC accounting enforcement actions is lower for firms with a formal audit committee. Jaggi and Leung (2007) show that the establishment of audit committees by Hong Kong firms constrained earnings management. Similarly, Piot and Janin (2007) find that the presence of audit committee curbs upward earnings management in France. In contrast, Peasnell et al. (2005) find no evidence that the existence of audit committee constrains income-increasing manipulation to avoid reporting losses and earnings reductions.

2.5.5 Audit committee characteristics and earnings management

There are a large number of studies that examine the relationship between various audit committee characteristics and aspects of financial reporting quality such as likelihood of fraudulent financial reporting, earnings restatements, earnings management and perceived financial reporting quality (He et al., 2008). In this study, I focus on examining if there is any relationship between audit committee

characteristics and earnings management for Hong Kong listed firms.

There are a number of studies that find audit committee characteristics are associated with lower earnings management. For example, Klein (2002a) using S&P500 firms in 1992 and 1993 finds a negative relation between audit committee independence and abnormal accruals (see also Davidson et al., 2005). Vafeas (2005) based on US data between 1994 and 2000 use small earnings increases and negative earnings avoidance as proxies for poor earnings quality and finds audit committee insiders are associated with lower earnings quality. He also finds audit committee meeting frequency is associated with higher earnings quality.

Xie et al. (2003) using 1992 and 1994 data find that audit committee members with corporate or financial backgrounds are associated with firms that have smaller discretionary current accruals. They also find that audit committee meeting frequency is associated with reduced level of discretionary current accruals. Bedard et al. (2004) based on a sample of US firms with extreme abnormal accruals in 1996 find that the presence of a financial expert on the audit committee and an audit committee composed of solely of nonrelated directors are negatively related with the likelihood of aggressive earnings management. Agrawal and Chadha (2005) find that the probability of restatement is lower in companies whose audit committee has an independent director with financial expertise.

Bradbury et al. (2004) using a sample of Singaporean and Malaysian firms in 2000 find audit committee independence is related to lower abnormal accruals. This relation exists only when the abnormal accruals are income increasing. Yang and Krishnan (2005) using a sample of Australian firms in 2000 find that a majority of non-executive directors on the audit committee is significantly associated with lower discretionary accruals.

On the other hand, there are studies that do not find any significant relationship between audit committee characteristics and earnings management. For instance, Xie et al. (2003) find that the percentage of independent outsiders on the audit committee is unrelated to discretionary current accruals. Osma and Noguer (2007) using a sample of Spanish quoted companies during the period 1999-2001 find no correlation between the existence of an independent audit committee and the magnitude of abnormal accruals. Piot and Janin (2007) using a sample of French firms during 1999 to 2001 find audit committee independence has no significant effect on abnormal accruals. Bedard et al. (2004) find no significant association between either the frequency of audit committee meeting with the likelihood of aggressive earnings management. Yang and Krishnan (2005) using US data during 1996-2000 find no significant association between either audit committee independence, financial expertise or frequency of audit committee meeting with quarterly discretionary accruals.

In summary, though there are studies that provide supporting evidence that more independence, expertise and diligence of audit committees are associated with better earnings quality, there are a number of studies that do not find such an association. In addition, it seems that US studies in earlier periods are more supportive compare with studies in other countries using more recent data.

As suggested by Shleifer and Vishny (1997), large shareholders play an important role in corporate governance. Family firms are typically characterized by large family ownership. Audit related governance structures such as audit committees have direct roles in financial reporting process. Therefore, in this study, I try to examine how family firms may affect audit committee effectiveness in constraining earnings management.

2.6 Audit committee determinants

There are broadly two strands of research related to audit committees. They are (1) studies that examine the relationship between various audit committee characteristics and financial reporting quality (see section 2.5) and (2) studies related to determinants of audit committee characteristics. In other words, audit committee characteristics are used as independent variables in the first type of studies and are used as dependent variables in the second type.

The audit committee determinant studies discussed below mainly focus on three audit committee characteristics, namely, audit

committee independence, financial expertise and diligence.

Klein (2002b) finds that audit committee independence increases with board size and board independence. In contrast, she finds a negative association between audit committee independence and the presence of alternative monitoring mechanism, that is, for larger firms or when a non-management director owning at least 5 percent of the firms' share sits on the audit committee. Klein (1998) finds that boards with stronger CEOs have a higher probability of placing insiders and interested directors on their audit committees than boards with relatively weaker CEOs. Beasley and Salterio (2001) find Canadian firms that voluntarily include more outside directors on the audit committee have larger boards with more outsiders serving on the board and are more likely to separate the board chairperson position from the CEO/president positions.

Beasley and Salterio (2001) find that firms that voluntarily create audit committees composed of outside members with a breadth of relevant financial reporting and audit committee knowledge and experience have boards that are larger, have more outside members, and are less likely to be chaired by the CEO or president. Krishnan and Lee (2009) test the relation between demand for accounting financial experts and potential litigation risk and find that firms with higher litigation risk are more likely to have accounting financial experts on their audit committees.

Raghunandan and Rama (2007) find that there are more audit committee meetings in firms that are larger, have high outsider block-holdings, are in litigious industries and have more board meetings. They also find a significant positive relationship between the proportion of accounting experts and the number of meetings. Klein (1998) finds that audit committees of strong-CEO firms also tend to meet less frequently.

There are much fewer studies on audit committee determinants and none of them examine the association between family firms and various audit committee characteristics.

2.7 Family firms

According to Claessens et al. (2000), Hong Kong has about two-thirds (66.7%) of its public listed companies in family hands. For most other East Asian countries, over half the public listed companies are family controlled.

Ali et al. (2007) using a sample of S&P500 firms show that family firms report better quality earnings and are more likely to warn for a given magnitude of bad news. Wang (2006) find that founding family ownership is associated with lower abnormal accruals, greater earnings informativeness and less persistence of transitory loss components in earnings. Similiarly, Anderson et al. (2003) find that family firms, on average, perform better than non-family firms.

On the other hand, Jaggi and Leung (2007) examines whether the voluntary establishment of audit committees by Hong Kong firms during 1999 and 2000 would constrain earnings management. They detect comparatively lower earnings management for the firms with audit committees compared to the firms without audit committees. However, they find that the effectiveness of audit committees in constraining earnings management is reduced when family members are present on corporate boards.

Jaggi et al. (2009) finds that the monitoring effectiveness (proxied by discretionary accruals and accruals quality) of INED's is reduced in family controlled firms. Ho and Wong (2001) find that the percentage of family members on the board is negatively related to the extent of voluntary disclosure. Chen and Jaggi (2000) find a positive association between the proportion of INEDs on corporate boards and comprehensiveness of financial disclosures. However, they also find that this association is weaker for family controlled firms compared to non-family controlled firms.

Despite US studies (Ali et al., 2007; Wang, 2006) finding that family firms report better quality earnings, the Hong Kong studies suggest that family firms tend to mitigate the effectiveness of audit committees and INEDs in constraining earnings management. Therefore, whether family control will moderate the effectiveness of audit committee independence, financial expertise and diligence in constraining earnings management for Hong Kong listed firms after

the corporate governance reform is an open question.

Some recent studies such as Srinidhi et al. (2010) confirm Wang's (2006) result that family firms have higher earnings quality but suggest that the result is driven by family firms that choose stronger corporate boards. They interpret the results as strong-governance family firms signal their transparency to the market and separate themselves from other family firms.

Anderson et al. (2009) find that family firms are more opaque than non-family firms. They show that only 'founder' or 'heir' firms that are characterized as transparent receive performance or valuation premiums. As corporate opacity increases, founder or heir ownership has an increasingly negative relation to firm performance. They suggest that founders and heirs in large publicly traded firms exploit opacity to extract private benefits at the expense of minority shareholders.

Anderson and Reeb (2004) suggest that the superior performance of family firms found in Anderson et al. (2003) was driven largely by family firms with greater board independence. They argue that more independent boards provide the necessary checks and balances that limit family expropriation of the firm's resources.

Fan and Wong (2005) using a broad sample from eight East Asian economies document that firms with high agency conflicts embedded

in the ownership structure as measured by the divergence of voting and cashflow rights are more likely to employ Big-5 auditors. They suggest that these East Asian firms use Big-5 auditors as a monitoring and/or bonding mechanism to restrict controlling shareholders' ability to extract private benefits of control. They argue that the controlling shareholders are willing to commit to such monitoring / bonding mechanisms if the benefits such as better credit ratings, lower share price discounts due to agency problems are larger than the private benefits that can be extracted from minority shareholders.

In a recent paper, Armstrong et al. (2010, p.103) while discussing the role of financial reporting in corporate governance suggest that,

> "Overall, it remains an open question whether ownership structures with controlling shareholders use financial reporting as a commitment mechanism that restricts the controlling shareholder's ability to extract private benefits of control, or instead use financial reporting to distort the information environment to facilitate greater extraction of private benefits."

The same question applies to family firms in the constitution of audit committee. That is, whether family firm uses audit committee to provide a credible commitment to minority holders that they will be protected. Alternatively family firms constitute symbolic audit committees to facilitate greater extraction of private benefits.

2.8 Alternative corporate governance perspective

According to DeAngelo (1981), audit quality is defined as the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report that breach. Similar to auditor, the audit committee effectiveness depends on the financial expertise and diligence of audit committee members. Higher expertise increases the probability that a material misstatement will be detected. Effectiveness also depends on audit committee independence which suggests the audit committee will confront management when necessary.

Cohen et al. (2008) observe that the theoretical focus of most audit committee studies is based on the agency theory. These studies examine how the monitoring roles of the board and the audit committee have been used to protect (or fail to protect) stockholder rights, largely ignoring the effect management may have on the governance process. These studies based on agency approach implicitly assume that boards and audit committees that meet the standard or regulatory definitions of independence are more likely to be effective monitors of management's action. Although this approach provides many useful insights, one of the limitations is that independence in form may not be the same as independence in substance. For example, Carcello et al. (2007) found that when CEOs had influence in the selection of audit committee members there were a greater number of financial restatements than when CEOs were not involved. This occurred even though the audit committees were

comprised solely by members who fulfilled the regulatory requirements for independence. This may be one of the reasons for the mixed results of studies examining the relationship between audit committee independence and earnings management (see section 2.5.5).

Cohen et al. (2008) suggest that auditors take a boarder view of the parties involved in governance. They include management as part of the governance framework, acknowledging the role managers play in determining the effectiveness of other governance structures. That is, management may have a significant influence on who is appointed to the board and audit committee as well as over-ride controls in place. Management influence is even more pervasive for family firms as family members who are shareholders and management at the same time often play major roles in the firm's operation and governance processes.

An alternative corporate governance perspective, namely, institutional theory perspective is examined in the following section.

2.8.1 Overview of institutional theory

Institutional theory was originally used in organizational analysis by sociologists (Meyer and Rowan, 1977; DiMaggio, 1983). More recently, it has been used in accounting literature to explain why organizations adopt certain accounting methods (Mezias, 1990) or management accounting system (Burns and Scapens, 2000) It is also used to describe and explain the audit committee process (Spira, 1999;

Beasley et al., 2009). DiMaggio and Powell (1991, p.27) assert that;

> "institutionalism has been most attentive to processes of legitimation and social reproduction. We have emphasized that organizational environments are composed of cultural elements, that is, taken for granted beliefs and widely promulgated rules that serve as templates for organizing. Institutional reproduction has been associated with the demands of powerful central actors, such as the state, the professions, or the dominant agents within organizational fields."

Meyer and Rowan (1977) argue that,

> "organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized society. Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures."

In short, institutional theory suggests that sometimes organizations use symbolic gestures and activities to maintain their forms to other parties to gain legitimacy and enhance their chances of survival (Cohen et al., 2008).

It is probable that for the early audit committee adoptors, there are rational reasons to believe that audit committees will help to improve financial reporting quality. As audit committees become more widely adopted and subsequently mandated by regulators. It becomes taken for granted beliefs that setting up audit committees are equivalent to good corporate governance and financial reporting quality. It is possible that audit committees could be performing a ceremonial

function which through a display of concern for corporate governance standards, validates company legitimacy and enable access for resources for survival and growth (Spira, 1999).

2.8.2 Organizational isomorphism

DiMaggio and Powell (1983) argue that institutions become similar over time through the process of institutional isomorphism as organizations adapt to become more similar with other organizations around them. There are three types of isomorphism, namely, coercive, mimetic and normative isomorphism.

Coercive isomorphism results from both formal and informal pressures by other organizations and/or by societal expectations in the society within which the organizations function.

Mimetic isomorphism is a response to uncertainty. When organizational technologies are not well understood, when goals are ambiguous, organizations may model themselves on other organizations. Organizations tend to model themselves on similar organizations in their field that they perceive to be more legitimate and successful.

Normative isomorphism stems primarily from professionalization where members of a profession try to define the normative conditions and methods of their work. DiMaggio and Powell (1983) argue that,

> "Two aspects of professionalization are important sources of isomorphism. One is the resting of formal education and legitimation in a cognitive base produced by university specialists; the second is the growth of professional networks that span organizations and across which new models diffuse rapidly. Universities and professional training institutions are important centres for the development of organizational norms among professional managers and their staff. Professional and trade associations are another vehicle for the definition and promulgation of normative rules about organizational and professional behavior."

A number of researchers use the institutional theory perspective to describe or explain the adoption of audit committees (Dillard et al. 2004, p.516; Kalbers and Fogarty, 1998; Beasley et al., 2009). For instance, Kalbers and Fogarty (1998) point out that regulatory bodies such as New York Stock Exchange, NASDAQ, Securities and Exchange Commission have used coercive influence that has led to the formation of audit committees. Mimetic isomorphism takes place through formal and informal channels, such as industry guidelines, common practices, and interaction through interlocking boards of directors. Normative influence results primarily from the professionalism of involved individuals. Accountants and auditors, through their professional bodies such as American Institute of Certified Public Accountants have pushed for the creation of audit committees and guidelines for their activities.

2.8.3 Loose coupling

However, conforming to institutionalized rules may conflict with efficiency criteria. Therefore to maintain ceremonial conformity, organizations that reflect institutional rules may tend to become loosely coupled. That is, building gaps between their formal structures and actual work activities (Meyer and Rowan 1977). In Meyer and Rowan's words,

> "decoupling enables organizations to maintain standardized, legitimating, formal structures while their activities vary in response to practical considerations. The organizations in an industry tend to be similar in formal structure – reflecting their common institutional origins – but may show much diversity in actual practice."

Different researchers with different research focus have different meanings for the phrase "loose coupling" (Orton and Weick, 1990). Among other descriptions, Weick (1976, p.5) describes loose coupling as actual causal independence and the absence of linkages that should be present based on some theory.

In the case of Hong Kong, all listed companies have similar audit committee structure as required by the listing rules. If most companies only adopt audit committees due to regulation or use audit committee as a symbolic display of conformity, based on the loose coupling argument, there may not be any association between audit committee independence, expertise, diligence and financial reporting quality.

2.8.4 Evidence of alternative corporate governance perspectives

Ekanayake (2004) argues that although agency theory captures the typical nature of agents in Western cultures, given the cultural differences, it may not be the case with regard to non-Western cultures.

Taylor (1995) examines budget-related behavior in a multi-cultural setting. The study finds a lack of cross-cultural transferability of assumptions underlying agency theory with regard to budget-related behavior. Taylor argues that the "effectiveness of traditional control subsystems (i.e. budgetary participation, budgetary emphasis and compensation scheme), as predicted by agency theory for the Western group, [does] not hold for the Chinese group".

Sharp and Salter (1997) explored the universality of agency theory in explaining escalation decisions for losing (unprofitable) capital expenditure projects. The results support the interpretation that agency theory (e.g. the presence of an incentive to shirk and asymmetric information) has strong explanatory power for project escalation decisions in North America, but no explanatory power in the Asian sample.

O'Connor and Ekanayake (1998) examine the differences in the use of budgets for evaluating the performance of subordinate managers in Australia, Singapore, South Korea and Sri Lanka. The results support the theoretical expectation that budget emphasis in performance evaluation is lower in the Asian sample suggesting a

lower agency effect in Asian cultures. Therefore, it is an empirical issue whether agency theory can be applied to explain the audit committee characteristics and effectiveness of Hong Kong listed firms.

Spira (1999) through interviewing audit committee participants of UK listed companies suggests that a possible explanation for popularity of audit committees may be found in their ceremonial function, which, through a comforting display of concerns for corporate governance standards, validates company legitimacy and enables access to resources for survival and growth. In a recent study, Beasley et al. (2009) examine the audit committee oversight process by interviewing audit committee members of US listed companies. They find evidence of both substantive monitoring and ceremonial action, such that neither the agency theory nor the institutional theory can fully explain their results.

Eisenhardt (1988) uses variables from both agency and institutional perspective to explore the sales-compensation policies of 54 retail specialty stores. The results suggest that both perspectives are necessary for a good description of compensation policies. Kalbers and Fogarty (1998) also use both the agency theory and institutional theory approach to analyze audit committee activities and effectiveness. Their results suggest that neither theory alone is as useful as their synthesis. Cohen et al. (2008) observe that extant research is predominantly based on agency theory perspective. They suggest other perspectives such as institutional theory perspective may

be used to explain corporate governance processes[9].

In this study, both the agency and institutional theory perspectives are used to examine audit committee characteristics and effectiveness of Hong Kong listed firms.

[9] Cohen et al. (2007) also suggest the resource dependence and management hegemony perspectives. However, in this study, I only focus on agency and institution theory perspectives.

CHAPTER 3 HYPOTHESES DEVELOPMENT

3.1 Introduction

Family firms are often characterized by strong family member presence on top management and board of directors and/or significant family ownership. In Hong Kong, it is fairly common that the same family member serves as both the CEO and chairman of the board. In addition, a nomination committee is not required for Hong Kong listed company. Instead the whole board and/or management are often involved in the selection of board members. As a result, family members are usually actively involved in the management and corporate governance process of family firms.

After the corporate governance reform in 2004, many Hong Kong listed companies were required to restructure their audit committees in order to meet the new audit committee requirements if the firms did not have any audit committees or their existing audit committees did not meet the new requirements.

This study seeks to examine the association between audit committee characteristics (including independence, financial expertise and diligence), earnings management and family firm right after the

corporate governance reform in 2004.

3.2 Determinants of audit committee characteristics

Most audit committee studies focus on examining the association between various corporate governance and audit committee characteristics and financial reporting quality. There are relatively few studies which examine the economic determinants of audit committee characteristics (Beasley and Salterio, 2001; Klein, 1998; Klein, 2002b; Krishnan and Lee 2009; Raghunandan and Rama, 2007).

From the agency theory perspective, there are several characteristics of family firms that reduce the likelihood of type I agency problems (see section 2.2.3). First, families usually hold undiversified and concentrated equity positions in their firms and therefore have strong incentives to monitor managers. Second, families have good knowledge about their firms and therefore are effective monitors of managers. This suggests that earnings management due to type I agency problems are less likely to occur in family firms. As a result, family firms would have less demand for external monitoring and effective audit committee.

As discussed before, family firms are more susceptible to type II agency problems than non-family firms. Type II agency problems may also lead to manipulation of accounting earnings, for example, to hide the adverse effects of related party transactions or to facilitate family members' entrenchment in management positions. If the

controlling family wants to take advantage of minority shareholders, again this would suggest that family firms would have less demand for an effective audit committee. Therefore, under the agency theory perspective, both type I and II agency problems suggest that family firms will have less demand for an effective audit committee. In other words, family firms will have less demand for audit committee independence, expertise and diligence.

From the institutional theory perspective, DiMaggio and Powell (1983) and Mezias (1990) argue that the entry of outsiders may contribute to the diffusion of normative models by supplying personnel who have experience with practices that are widespread but not yet adopted by the organization. Since family firms are controlled by family members and have long investment horizons (Ali et al., 2007; Anderson et al., 2003), there is usually lower top management turnover or entry of outsiders. Chen et al. (2008) reported that 62.2% of family firms have a founding family member (a founder or a descendant) serving as the CEO of the firm.

In addition, DiMaggio and Powell (1983) suggest that the greater reliance on academic credentials in choosing managerial staff, the greater the extent to which an organization will become like other organizations in its field. This is due to people with academic credentials having already undergone a socialization process in university program and being more likely to have internalized certain best practices and dominant organizational model.

Since family members usually have a significant presence in top management, family firms are expected to have less entry of outsiders or less reliance on academic credentials in recruiting top management personnel. Therefore, under institutional theory, family firms should be subject to less isomorphism. In other words, family firms are expected to have less audit committee independence, financial expertise and diligence compared with non-family firms.

Based on the discussion above, both agency and institutional theory perspectives predict that family firms will have less audit committee independence, financial expertise and diligence compared with non-family firms. The hypotheses are stated in the null form as follows:

H1a: There is no significant relationship between audit committee independence and family firms in Hong Kong.

H1b: There is no significant relationship between audit committee financial expertise and family firms in Hong Kong.

H1c: There is no significant relationship between audit committee diligence and family firms in Hong Kong.

3.3 Audit committee characteristics and earnings management

In this study, I also examine whether there is any significant relationship between audit committee independence, financial expertise, diligence and earnings management for Hong Kong listed firms.

La Porta et al. (1998) highlight the differences in the cultural and institutional environments among different countries. Though Hong Kong's legal framework is influenced by English common law, there are significant differences between business environment of Hong Kong and that of the western developed countries. For example, the Hong Kong/China business environment emphasizes more the personal relationship (guanxi) rather than formal written contract. Regarding the institutional environment, there is comparatively less investor protection and lower director liability compared with western developed countries.

Due to the different cultural and institutional environment of Hong Kong compared with the western developed countries, it is not clear whether the association between audit committee independence, expertise, diligence and earnings management will hold for Hong Kong firms. This is supported by the conflicting findings about audit committee characteristics and earnings management in the U.S. and that of other countries (see section 2.5.5). There is a possibility that audit committees may be used as a symbolic display of conformity only among Hong Kong listed firms. So this study uses the more detailed audit committee information such as composition and meeting frequency which became available after the corporate governance reform in 2004 to examine this issue.

Under agency theory, more audit committee independence, financial expertise and diligence should be associated with lower

earnings management. On the other hand, under the institutional theory if most Hong Kong listed firms after the corporate governance reform only use audit committees as symbolic displays of conformity, there will be no relationship between audit committee independence, financial expertise, diligence and earnings management. The hypotheses are stated in the null form as follows:

H2a: There is no significant relationship between audit committee independence and earnings management for Hong Kong listed firms.

H2b: There is no significant relationship between audit committee financial expertise and earnings management for Hong Kong listed firms.

H2c: There is no significant relationship between audit committee diligence and earnings management for Hong Kong listed firms.

3.4 Audit committee characteristics, family firms and earnings management

Both agency and institution theory perspectives predict that family firms will be associated with less audit committee independence, financial expertise and diligence. However, they have different predictions about associations between audit committee characteristics and earnings management. Agency theory generally does not consider the effects of management on the corporate governance process and assume that boards or audit committee members that meet

the definition of independence or expertise will be effective monitors of management's actions. Therefore, under the agency theory perspective, family control should not affect the association between audit committee characteristics and earnings management.

On the other hand, if family firms tend to use audit committees as symbolic gestures to enhance their legitimacy only, loose coupling may be observed between audit committee characteristics and earnings management. That is, there will be no association between various audit committee characteristics and earnings management for family firms. There are studies that provide support for this view. For instance, Jaggi and Leung (2007) find that audit committee effectiveness in constraining earnings management is reduced when family members are present on corporate boards. Jaggi et al. (2009) find that the monitoring effectiveness of INED's is reduced in family controlled firms. Compared with these studies, using audit committee characteristics should provide more construct validity as audit committee is supposed to be more directly involved in monitoring financial reporting quality compared with directors in general (Dechow et al. 2009, p.18). The hypotheses are stated in the null form as follows:

H3a: The relationship between audit committee independence and earnings management is not significantly different between family and non-family firms in Hong Kong.

H3b: The relationship between audit committee financial expertise and earnings management is not significantly different between family and non-family firms in Hong Kong.

H3c: The relationship between audit committee diligence and earnings management is not significantly different between family and non-family firms in Hong Kong.

3.5 Audit committee characteristics, committee restructuring and earnings management

Since my sample period is right after the corporate governance reform in 2004, some firms are required to restructure their audit committees in order to meet the new audit committee requirements. The three new audit committee requirements introduced by the reform are (1) an audit committee must have at least 3 audit committee members; (2) an audit committee must have at least one audit committee member with accounting knowledge; (3) majority of audit committee member are INEDs. Companies which did not meet one or more of the above audit committee requirements before but met all of them after were considered to have restructured their audit committees due to the corporate governance reform (hereafter referred to as "the restructuring firms").

Under the institutional theory perspective, the restructuring firms are more likely to decouple due to the fact that they are subject to coercive isomorphism resulting from the corporate governance reforms. Scott (1991) argues that in comparison with imposed structural

changes, when a new structural pattern is voluntarily adopted by organizational managers, one would expect the acquired changes to be less superficial. Organization managers should be more committed to them and in a better position to encourage and enforce conformity to them.

Similarly, Zucker (1987), DiMaggio (1991) and Kalbers and Fogarty (1998) argue that early adopters of an innovation can be predicted in terms of technical needs or constraints. But as the innovation becomes widely adopted, adoption provides legitimacy rather than improved performance. Specifically related to audit committee, Kalbers and Fogarty (1998, p.134) argue that,

> "The pattern and rate of adoption of audit committees is similar to other social diffusion observed in institutional theory studies. Early adopters of a new structure should be responding to technical dictates and constraints, whereas late adopters should be more influenced by isomorphic forces in the decision to adopt. The increasing velocity of audit committee adoption during the 1970 suggests an explanation other than a cost beneficial reaction to demands for monitoring. Audit committees could be adopted as a symbolic gesture that legitimates a corporation's governance structure to other parties."

Under the agency theory, audit committee members that meet the definition of independence and expertise should be effective monitors of management's action. Therefore, whether the firms have restructured their audit committees should not affect the association between audit committee characteristics and earnings management.

However, if the restructuring firms tend to use audit committee as symbolic gestures to enhance their legitimacy only, the restructuring firms may mitigate the association between audit committee characteristics and earnings management. The hypotheses are stated in the null form as follows:

H4a: The relationship between audit committee independence and earnings management is not significantly different between the restructuring and non-restructuring firms in Hong Kong.

H4b: The relationship between audit committee financial expertise and earnings management is not significantly different between the restructuring and non-restructuring firms in Hong Kong.

H4c: The relationship between audit committee diligence and earnings management is not significantly different between the restructuring and non-restructuring firms in Hong Kong.

CHAPTER 4 RESEARCH DESIGN

4.1 Introduction

This chapter discusses the research methodology employed in this study to investigate the hypothesis developed in Chapter 3. Section 4.2 discusses the data sources and sample selection method. Section 4.3 presents the empirical models for each of the tests.

4.2 Sample selection

As a result of the corporate governance reform, the revised listing rule required companies listed on HKEx on or before 31 March, 2004 to comply with the new audit committee requirements by 30 September, 2004[10]. In addition, Hong Kong listed firms are required to comply with the extended disclosure requirements such as composition of audit committee, number of audit committee meeting, etc. in a corporate governance report for accounting periods commencing on or after 1 January 2005. My sample period includes the first four annual reports with year-ends on or after 30 September, 2004. Therefore, for companies whose year-ends fall between 30 September to 31 December, the sample period is from year end 2004 to 2007. For companies whose year-ends fall between 1 January to 29 September, the sample period is from year-ends 2005 to 2008. This

[10] Main Board listing rules 3.19

represents the four year period immediately after the corporate governance reform took effect and when the more detailed audit committee information first becomes available.

I started the sample selection by searching the Thomson Financial databases[11] for Hong Kong firms for the sample period. There are 451 mainboard listed Hong Kong firms excluding regulated industries (SIC code 4000-4999) and financial institutions (SIC code 5999-7000). There are 34 firms which changed their year-ends and therefore excluded from the final sample as inconsistent length of reporting periods may affect estimation of accruals quality. There are another 32 firms with missing financial data in Thomson Financial databases which are also excluded. As a result, the final sample is comprised of 385 firms.

	Number of firms
Firms listed on Thomson Financial database (excluding regulated industries and financial institution)	451
Less: firms which changed year-end during the sample period	(34)
Less: firms with missing data in Thomson Financial databases	(32)
Number of firms	385
Number of firm-year observations (385 firms x 4 years)	1540

The sample by industry is presented in Table 1.

Insert Table 1 here

[11] The sample selection is based on Thomson Financial databases as at October 2009.

The non-financial information such as board of directors and audit committee composition and shareholdings by CEO and family members are hand collected from the annual reports of the sample firms. I identify family members by looking at the biographical details of management which require disclosure of family relationship among directors and senior management. I measure percentage ownership by looking at the director interests disclosure in the directors' report. Family ownership includes direct holdings by the CEO and family members such as spouse, child, parent, sibling, brother and sister-in-law, etc. Audit committee composition is disclosed in the directors' report in 2004. Audit committee composition and number of meetings are disclosed in a new corporate governance report starting from 2005 onwards. Since Hong Kong listed firms are required to disclose the number of audit committee meeting for reporting period commencing on or after 1 January, 2005 only, the number of audit committee meetings is not available for most of the sample firms in the first year after the reform.

4.3 Research methodology

According to Chakrabarty (2009), a family business is a business in which one or more members of one or more families have a significant ownership interest and significant commitments toward the business' overall well-being. A firm is said to be family-owned if a person is the controlling shareholder; that is, a person (rather than a state, corporation, management trust, or mutual fund) can garner enough shares to assure at least 20% of the voting rights and the

highest percentage of voting rights in comparison to other shareholders.

Based on the above definition, a family firm is defined and tested in two ways. First of all, following Jaggi et al. (2009), Anderson et al. (2003) and Wang (2006), FAM_OWN is used to measure family ownership based on the percentage of common stock owned by family members. Following Morck et al. (1988), Hermalin and Weisbach (1991) and Jaggi et al. (2009), I use fractional equity ownership of the family as measure of ownership control concentration. A 20% cut-off point for family ultimate ownership control is used to identify the family-controlled firm. Second, %FAM_BOD is used to measure percentage of directors from the same family on the board of directors (Anderson et al., 2003).

4.3.1 Audit committee independence

I use the percentage of outsiders (INEDs) on the audit committee to measure audit committee independence. To test H1a, the following pooled cross-sectional OLS regression is run:

$$ACIndep_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Losses_{it} + \beta_6 DA_{it} + \beta_7 Block_{it} + \beta_8 FirmSize_{it} + \beta_9 Yr2_t + \beta_{10} Yr3_t + \beta_{11} Yr4_t + \mu_{it} \quad (1)$$

ACIndep is the percentage of INEDs on the audit committee. FAM is the family control proxy (i.e. FAM_OWN or %FAM_BOD). The variable of interest here is the coefficients on FAM (β_1) which tests

whether there is any significant difference in audit committee independence between family firms and non-family firms. A positive (negative) coefficient will indicate family firms are associated with more (less) independent audit committee. Following Klein (2002b), I include the control variables below[12]:

BODSize	= Natural log of the number of board members.
BODIndep	= Percentage of outside directors on the board.
MB	= Ratio of market value to book value as of the year-end
Losses	= 1 if the firm reported losses for each of the past 2 years (year t and t-1), and 0 otherwise.
DA	= Debt-to-assets ratio as of year end.
Block	= 1 if a non-insider holds at least 5 percent of the firm's shares, else 0.
FirmSize	= Natural log of market value of the firm.
Yr2	= 1 if it is the second annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.
Yr3	= 1 if it is the third annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.
Yr4	= 1 if it is the fourth annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.

4.3.2 Audit committee financial expertise

Based on the SEC's narrow definition and DeFond et al. (2005b), an accounting financial expert is defined as a person who has previously held or currently holds a job directly related to accounting

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[12] Certain control variables with insignificant results are excluded. In addition, I have followed Klein (2002b), Krishnan and Lee (2009), Raghunandan and Rama (2007) for determinants of audit committee independence, expertise and diligence respectively. For simplicity and consistency, I have standardized the definitions for some control variables which are related to more than one audit committee characteristic.

or auditing expertise. These experts include CPAs, CFOs, controllers and auditors. Non-accounting financial experts include those who have previously held or currently hold positions such as managing director in investment banking or venture capital firms, or accounting or finance professors, as well as persons who have worked as CEOs or presidents of business corporations. Consistent with the requirements of the corporate governance reform, ACExpert is defined as the ratio of the number of accounting and non-accounting financial expert to the number of audit committee members. To test H1b, the following pooled cross-sectional OLS regression is run:

$$ACExpert_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Block_{it} + \beta_6 FirmSize_{it} + \beta_7 LitigationRisk_{it} + \beta_8 ACSize_{it} + \beta_9 Segment_{it} + \beta_{10} Yr2_t + \beta_{11} Yr3_t + \beta_{12} Yr4_t + \mu_{it} \quad (2)$$

ACExpert is the proxy for audit committee financial expertise as defined above. FAM is the family control proxy (i.e. FAM_OWN or %FAM_BOD). The variable of interest here is the coefficients on FAM (β_1) which tests whether there is any significant difference in audit committee financial expertise between family and non-family firms. A positive (negative) coefficient will indicate family firm is associated with more (less) audit committee financial expertise. I also include control variables based on Krishnan and Lee (2009). The variable definitions are as follows:

LitigationRisk	= 1, if a firm is in any of the following sectors; pharmaceuticals SIC codes of (2833-2836), computers (3570-3577), electronics (3600-3674), retail (5200-5961), or software (7370); 0 otherwise.
ACSize	= Natural log of number of audit committee members.
ACIndep	= Percentage of INEDs in audit committee.
Segment	= Natural log of the number of business segments.

Other control variables are same as defined before.

4.3.3 Audit committee diligence

Similar to prior studies (Raghunandan and Rama, 2007; Xie et al., 2003; Vafeas, 2005), audit committee meetings are used as proxy for audit committee diligence or activity. To test H1c, the following pooled cross-sectional OLS regression is run:

$$ACMeet_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Losses_{it} + \beta_6 DA_{it} + \beta_7 Block_{it} + \beta_8 FirmSize_{it} + \beta_9 LitigationRisk_{it} + \beta_{10} ACSize_{it} + \beta_{11} ACExpert_{it} + \beta_{12} BODMeet_{it} + \beta_{13} Yr2_t + \beta_{14} Yr3_t + \beta_{15} Yr4_t + \mu_{it} \quad (3)$$

ACMeet is the natural log of the number of audit committee meetings. FAM is the family control proxy (i.e. FAM_OWN or %FAM_BOD). The variable of interests here is the coefficients on FAM (β_1) which tests whether there is any significant difference in number of audit committee meeting between family and non-family firms. A positive (negative) coefficient will indicate family firm is associated with more (less) audit committee meeting.

I also include control variables based on Raghunandan and Rama (2007). The variable definitions are as follows:

BODMeet = Natural log of number of board meeting during the year.

Other control variables are the same as defined previously.

4.3.4 Audit committee characteristics and earnings management

Existing literature examining the association between audit committee characteristics and earnings management mainly use the discretionary accruals (Jones, 1991) or variations of discretionary accruals model (Dechow et al., 1995; Kasznik, 1999) to measure earnings management. However, discretionary accruals models have limitations. For example, the measurement of discretionary accruals is surrounded by the controversy whether discretionary accruals can be isolated from non-discretionary accruals accurately (Guay et al., 1996). Furthermore, discretionary accruals may not always represent opportunistic earnings management. They could be used to signal managers' private information to investors (Dechow 1994, p.5).

Insignificant and/or contradictory results between audit committee characteristics and financial reporting quality are found in European as opposed to US studies. He et al. (2008) suggest that this could be due to abnormal accruals playing a different role outside the US. European managers may see abnormal accruals as vehicles for conveying value relevant information to the market instead of vehicles for managing earnings to promote managerial self-interest.

Dechow and Dichev (2002) argue that earnings quality is better if accruals are associated with realized cash flows in the previous, current and subsequent periods. The model of McNichols (2002) modifies the Dechow and Dichev (2002) accruals quality model by adding two variables, namely, change in revenues and property, plant and equipment.

Under the opportunistic accrual management hypothesis, managers may manage accruals to hide poor performance or postpone a portion of unusually good current earnings to future years. This will result in large discretionary accruals and high value of accruals quality (i.e. low reporting quality). This is because discretionary accruals, if used opportunistically will distort the mapping of earnings with cash flows. On the other hand, under the performance measure hypothesis, accruals anticipate future cash flows to produce a more reliable and timely measure of firm performance. This will again result in large discretionary accruals but low value of accruals quality (i.e. high reporting quality).

Guay et al. (1996) suggest that researchers taking into account manager's incentives (e.g. IPO, incentive compensation plan, etc.) when selecting sample of firms should have a better chance of identifying discretionary accruals. Dechow (2009) suggests that there is no one best earnings quality proxy but it should represent decision usefulness in specific decision contexts. Since this is a broad sample study (without taking into account manager's incentives) and the

purpose is to identify opportunistic earnings management, accruals quality should be a more appropriate measure of earnings management in this context.

Francis et al. (2004) examine the relation between the cost of equity and seven attributes of earnings, namely, accruals quality, persistence, predictability, smoothness, value relevance, timeliness, and conservatism. They find that the largest cost of equity effect is observed for accounting-based attributes, especially, accruals quality. The results suggest that investors consider accruals quality as the most important earnings attribute in determining the cost of equity. In theory, accruals quality is viewed as having the most direct link to information risk as it captures variation in the mapping of earnings into cash flows. Earnings management activities certainly increase information risk.

Jones et al. (2008) evaluate a comprehensive set of proxies for earnings management used in prior studies and find that McNichols' (2002) modification of the Dechow and Dichev (2002) model is better able to detect earnings management. Therefore, I use the modified accruals quality model as suggested by McNichols (2002) as a proxy for earnings management. The same model is used in a number of more recent studies such as Srinidhi and Gul (2007), Jaggi et al. (2009), Lim and Tan (2009), Dhaliwal et al. (2010) and Srinidhi et al. (2010).

Following McNichols (2002), I measure accruals quality by using the following regression model:

$$TCA_{i,t} = a_0 + a_1 CFO_{i,t-1} + a_2 CFO_{i,t} + a_3 CFO_{i,t+1} + a_4 \Delta REV_{i,t} + a_5 PPE_{i,t} + \varepsilon_{i,t} \quad (4)$$

Where TCA is the total current accruals which is net income (earnings before extraordinary items and discontinued operations) plus depreciation and amortization minus operating cash flows for firm i in the year t, CFO is cash flow from operations, ΔREV is change in revenue and PPE is gross property, plant and equipment. All variables are scaled by the average total assets.

Equation (4) is estimated cross-sectionally for all firms (minimum of 10 firms) within each of the 48 industry groups defined by Fama and Fench (1997) for each year. I combined certain related industry groups in order to have at least 10 firms in each group. Accruals quality is defined as the standard deviation of the residual, $\varepsilon_{i,t}$ for years t-4 to year t (a minimum of 3 years firm residual data is required). A higher value of accruals quality means higher standard deviation, meaning higher variation in reported earnings, and this reflects lower earnings quality.

To test H2, I run the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 \sigma(CFO_{it}) + \beta_6 \sigma(Sales_{it}) + \beta_7 OpCycle_{it} + \beta_8 NegEarn_{it} + \beta_9 MB_{it} + \beta_{10} DA_{it} + \beta_{11} Duality_{it} + \beta_{12} ROA_{it} + \beta_{13} Big4_{it} + \beta_{14} Yr2_t + \beta_{15} Yr3_t + \beta_{16} Yr4_t + \mu_{it} \quad (5)$$

AQ is the accruals quality measure which is the standard deviation of the absolute value of the residual estimated from equation (4).

The variables of interest here are the coefficients on ACIndep (β_1), ACExpert (β_2) and ACMeet (β_3) which tests whether there are any significant relationships between audit committee independence, financial expertise, diligence and earnings management. Negative (positive) coefficients will indicate audit committee independence, financial expertise, diligence are associated with less (more) earnings management.

Under the agency theory perspective, the coefficients on ACIndep (β_1), ACExpert (β_2) and ACMeet (β_3) is expected to be negative. On the other hand, under the institutional theory perspective, the coefficients are expected to be insignificant if most Hong Kong listed firms only adopt audit committees as symbolic gesture of conformity.

Following Francis et al. (2005), I use the five innate accruals quality factors, namely, firm size (FirmSize), standard deviation of cash flow from operations (σ(CFO)), standard deviation of sales (σ(Sales)), operating cycle (OpCycle), and incidence of losses

(NegEarn) as control variables.

In addition, following Jaggi et al. (2009), I include other control variables which may affect a firm's financial reporting quality. The variable definitions are as follows:

FirmSize	= Natural log of market value of the firm.
σ(CFO)	= Standard deviation of cash flow from operations (scaled by average total assets), calculated over the past seven years.
σ(Sales)	= Standard deviation of sales (scaled by average total assets), calculated over the past seven years.
OpCycle	= Length of operating cycle measured as the sum of days accounts receivable and days inventory.
NegEarn	= Proportion of loss (negative earnings) years out of the past seven years. I require at least four observations in the 7-year window.
Duality	= 1 if the CEO and the Chairman of the board of directors are the same person; 0 otherwise.
ROA	= Ratio of net income before extraordinary items to total assets.
Big4	= 1 for Big-4 auditor; 0 otherwise.

Other variables are same as defined before.

4.3.5 Audit committee characteristics, family firms and earnings management

To test H3, I run the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 ACIndep_{it} + \beta_3 ACExpert_{it} + \beta_4 ACMeet_{it} + \beta_5 FAM_{it}*ACIndep_{it} + \beta_6 FAM_{it}*ACExpert_{it} + \beta_7 FAM_{it}*ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 \sigma(CFO_{it}) + \beta_{10} \sigma(Sales_{it}) + \beta_{11} OpCycle_{it} + \beta_{12} NegEarn_{it} + \beta_{13} MB_{it} + \beta_{14} DA_{it} + \beta_{15} Duality_{it} + \beta_{16} ROA_{it} + \beta_{17} Big4_{it} + \beta_{18} Yr2_t + \beta_{19} Yr3_t + \beta_{20} Yr4_t + \mu_{it} \quad (6)$$

The variables of interest here are the coefficients on FAM_{it}*ACIndep (β_5), FAM_{it}*ACExpert (β_6) and FAM_{it}*ACMeet (β_7) which tests whether there are significant differences in relationship between audit committee independence, financial expertise, diligence and earnings management for family firms. Positive (negative) coefficients will indicate audit committee independence, financial expertise, diligence of family firms are associated with more (less) earnings management. The control variables are same as those in equation (4).

Under the agency theory perspective, the coefficients on FAM_{it}*ACIndep (β_5), FAM_{it}*ACExpert (β_6) and FAM_{it}*ACMeet (β_7) are expected to be either insignificant or negative. That is, family control does not mitigate or actually increase the effectiveness of various audit committee characteristics in constraining earnings management. Under the institutional theory perspective, the coefficients are expected to be positive. That is, audit committees of family firms if only serve as symbolic gestures of conformity will mitigate the effectiveness of various audit committee characteristics in constraining earnings management.

4.3.6 Audit committee characteristics, committee restructuring and earnings management

To test H4, I run the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 DRAC_i + \beta_2 ACIndep_{it} + \beta_3 ACExpert_{it} + \beta_4 ACMeet_{it} + \beta_5 DRAC_i * ACIndep_{it} + \beta_6 DRAC_i * ACExpert_{it} + \beta_7 DRAC_i * ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 \sigma(CFO_{it}) + \beta_{10} \sigma(Sales_{it}) + \beta_{11} OpCycle_{it} + \beta_{12} NegEarn_{it} + \beta_{13} MB_{it} + \beta_{14} DA_{it} + \beta_{15} Duality_{it} + \beta_{16} ROA_{it} + \beta_{17} Big4_{it} + \beta_{18} Yr2_t + \beta_{19} Yr3_t + \beta_{20} Yr4_t + \mu_{it} \quad (7)$$

DRAC, a dummy variable, is set equal to 1 for firms which restructured their audit committees due to the corporate governance reform in 2004 and zero otherwise.

The variables of interest here are the coefficients on $DRAC_i$*ACIndep (β_5), $DRAC_i$*ACExpert (β_6) and $DRAC_i$*ACMeet (β_7) which tests whether there are significant differences in relationship between audit committee independence, financial expertise, diligence and earnings management for the restructuring firms. Positive (negative) coefficients will indicate audit committee independence, financial expertise, diligence of the restructuring firms are associated with more (less) earnings management. The control variables are same as those in equation (4).

Under the agency theory perspective, the coefficients on $DRAC_i$*ACIndep (β_5), $DRAC_i$*ACExpert (β_6) and $DRAC_i$*ACMeet (β_7) are expected to be either insignificant or negative. That is, firms

that are required to restructure their audit committees due to the corporate governance reform does not mitigate or actually increase the effectiveness of various audit committee characteristics in constraining earnings management. The coefficients are expected to be positive under the institutional theory. That is, audit committees of the restructuring firms if only serve as symbolic gestures of conformity will mitigate the effectiveness of various audit committee characteristics in constraining earnings management.

CHAPTER 5 EMPIRICAL RESULTS

5.1 Introduction

This chapter reports the results of the empirical tests discussed in the last chapter. Section 5.2 presents the descriptive statistics of the dependent and independent variables. Section 5.3 presents the main results of the study with respect to various hypotheses, additional tests and robustness tests.

5.2 Descriptive statistics

The variable definitions and descriptive statistics for the variables used in the regression tests are provided in Table 2 and Table 3 respectively.

Insert Table 2 and Table 3 here

The mean (median) of absolute values of accruals quality is 0.098 (0.059). To avoid extreme values which may unduly influence the results, I winsorize the top and bottom 1% of accruals quality observations and 30 observations are removed[13]. In addition, another 5 observations are removed due to at least four observations in the past 7 years are required to estimate accruals quality. The mean (median)

[13] Instead of removing the extreme accruals quality observations, I also truncate the extreme accruals quality value at the top and bottom 1% level. The results are qualitatively the same.

percentage of INEDs on audit committee (ACIndep) is 93.0% (100%). The mean (median) percentage of financial experts is 66.3% (66.7%) and the mean (median) number of audit committee meetings is 2.67 (2).

32.0% of the sample firms have a dual board CEO/chairman. On average, 22.1% of outstanding ordinary shares are owned by one family (compared with 19.5% reported in Jaggi et al., 2009). About 50.8% (compared with 52.4% reported in Jaggi et al., 2009) of the sample firms have two or more family members serving on the boards of directors in the company.

Due to lack of disclosure of audit committee composition and meeting data before mandatory disclosure requirements took effect on 1 January, 2005, the number of observations for ACIndep, ACExpert and ACMeet is reduced to 1480, 1467 and 1244[14] respectively. Finally, 68.7% of the sample firms restructured their audit committees due to the corporate governance reform while the other 31.3% of sample firms have audit committees that met the new requirements even before the reform. Since Hong Kong listed companies are not required to disclose the existence or composition of audit committee before the corporate governance reform, I only have sufficient information for 294 (out of 385) firms to determine whether they have

[14] One audit committee meeting outlier being more than 5 standard deviations from the mean is removed.

restructured their audit committees to meet the new requirements.

Panel B of Table 3 presents difference of means tests for variables between family and non-family firms[15]. Consistent with Anderson et al. (2003), I find that family firms are generally smaller and have better performance compared with non-family firms. I find that audit committee of family firms are less independent and have less financial expertise. In addition, family firms are less likely to have an independent blockholder and more likely to have the same person serving as both the CEO and chairman of the board. Finally, consistent with Wang (2006), family firms on average have better financial reporting quality as measured by accruals quality compared with non-family firms.

The correlation matrix for variables used in the audit committee determinant models are provided in Panel C of Table 3. As expected FAM_OWN is significantly positively associated with %FAM_BOD as they are alternative proxies for family firms. The correlations also indicate that ACIndep and ACExpert are significantly negatively associated with FAM_OWN and %FAM_BOD. ACMeet is significantly negatively associated with ACIndep.

[15] A 20% cut-off point for family ultimate ownership control is used to identify family firms in this test.

The correlation matrix for variables used in the accruals quality models is provided in Panel D of Table 3. The correlations indicate that the accruals quality is significantly positively associated with ACIndep and significantly negatively associated with FAM_OWN, %FAM_BOD and ACExpert.

The highest correlations among control variables (in the same model) observed are between board size and firm size (Panel C) and between σ(CFO) and σ(Sales) (Panel D). Both of which have a positive correlation of 0.46[16]. All other correlations are below 0.40. This confirms that there is no multicollinearity problem among the variables in this study.

5.3 Regression results

5.3.1 Audit committee characteristics and family firms

I conduct regression tests to evaluate the association between audit committee independence and family firms. The regression results are reported in Table 4. The coefficients of both FAM_OWN and %FAM_BOD are significantly negative at the 1% level. Consistent with the predictions of the agency theory and institutional theory perspectives, family firms are associated with less independent audit committees. The coefficients on board size and firm size are significantly negative suggesting that firms with more board members

[16] I perform robustness tests to check if there is any multicollinearity problem by removing one of the highly correlated variable and find that the results are quantitatively the same (see section 5.3.6.1 for details).

and larger firms are associated with less audit committee independence. The coefficient on blockholder is positive and significant suggesting the existence of blockholders is associated with more audit committee independence. All other control variables are insignificant.

Insert Table 4 here

The regression results to evaluate the association between audit committee financial expertise and family firms are reported in Table 5. The coefficients of both FAM_OWN and %FAM_BOD are significantly negative at the 1% level. Consistent with the predictions of the agency theory and institutional theory perspectives, family firms are associated with less audit committee financial expertise. The coefficients on board size, block and firm size are significantly positive suggesting large firms and existence of blockholders are associated with more audit committee financial expertise. The coefficients on litigation risk and audit committee size are significantly negative suggesting firms in litigious industries and with large audit committees are associated with less audit committee financial expertise. All other control variables are insignificant.

Insert Table 5 here

The regression results to evaluate the association between audit committee diligence and family firms are reported in Table 6. The coefficients of both FAM_OWN and %FAM_BOD are negative but insignificant. So, there is no evidence suggesting family firms are associated with fewer audit committee meetings.

Consistent with Raghunandan and Krishnan (2007), the coefficients on firm size, audit committee size and number of board meetings are significantly positive suggesting larger firms, firms with large audit committees and firms having more board meetings are associated with more audit committee meetings. All other control variables are insignificant.

Insert Table 6 here

Based on the results from Table 4 to 6, family firms are associated with less audit committee independence and financial expertise. However, I do not find any significant difference in audit committee diligence between family and non-family firms.

Under the agency theory perspective, family firms are less susceptible to type I agency problems. Since families generally have knowledge and incentives to monitor managers, family firms should have less demand for external monitoring such as effective audit committees. On the other hand, family firms may be more susceptible to type II agency problems. Families may manipulate accounting earnings to hide the adverse effects of related party transactions or facilitate family members' entrenchment in management positions. Again, this will lead to less demand for external monitoring.

Under the institutional theory perspective, as family firms usually have lower top management turnover, less entry of outsiders, or less

reliance on academic credentials to recruit top management, they should be subject to less isomorphism. Family firms may tend to comply with the minimum audit committee requirements only.

The results that family firms are associated with less audit committee independence and financial expertise are generally consistent with the prediction of the agency and institutional theory perspectives.

5.3.2 Audit committee characteristics and earnings management

The regression results to evaluate the association between audit committee characteristics and earnings management are presented in Table 7. The results show that the coefficient on ACExpert is negative and significant at the 5% level. This result suggests that there is a negative association between audit committee financial expertise and earnings management.

Contrary to existing literature, the coefficient on ACIndep is positive and significant. However, the coefficient becomes insignificant after including the family control proxies and dummy variable for the restructuring firms (see section 5.3.3 to 5.3.5).

Finally, the coefficient on ACMeet is statistically insignificant. Consistent with existing literature, the empirical findings on the relationship of audit committee meetings and earnings management are

mixed. For example, Vafeas (2005) finds audit committee meeting frequency is associated with less small earnings increases and negative earnings avoidance (i.e. higher earnings quality). Xie et al. (2003) find that audit committee meeting frequency is associated with reduced level of discretionary current accruals. On the other hand, Bedard et al. (2004) and Yang and Krishnan (2005) find no significant association between the frequency of audit committee meetings and the likelihood of aggressive earnings management and the magnitude of discretionary accruals respectively.

Insert Table 7 here

The results suggest that audit committee expertise is effective in constraining earnings management of Hong Kong listed firms. The results are more consistent with the agency theory that audit committee is providing substantive monitoring instead of merely serving as a symbolic display of conformity only.

5.3.3 Family control, audit committee characteristics and earnings management

The regression results to evaluate the impact of family control on the association between earnings management and audit committee characteristics are reported in Table 8. Similar to Table 7, the coefficients of ACExpert remain negative but significant at the 11%

and 12% level only[17]. The coefficients on ACIndep and ACMeet are positive but significant using FAM_OWN only.

The coefficients on FAM are positive but only significant using FAM_OWN. So there is no evidence that family firms are associated with more earnings management. For the interaction term between audit committee characteristics and family firm, the coefficient of FAM*ACExpert is negative but statistically insignificant. The signs of coefficients on FAM*ACIndep are mixed and insignificant. The coefficients of FAM*ACMeet are negative but is significant using FAM_OWN only. Since most of the coefficients on FAM*ACIndep, FAM*ACExpert and FAM*ACMeet is insignificant, there is no evidence to support that the relationship between audit committee independence (financial expertise or diligence) and earnings management is significantly different between the family and the non-family firms.

Insert Table 8 here

Agency theory generally does not consider the effects of management on the corporate governance process and assume that boards or audit committee members that meet the definition of independence or expertise will be effective monitors of management's

[17] The coefficients of ACExpert becomes significant at the 10% level when I truncate instead of winsorize the top and bottom 1% accruals quality values. The coefficients are also significant at the 10% level when I used specialist auditor dummy instead of the Big4 dummy (see section 5.3.6.7).

actions. Therefore, under the agency theory perspective, family control should not affect the association between audit committee characteristics and earnings management. On the other hand, if family firms tend to use audit committees as symbolic gestures to enhance their legitimacy only, family firms will mitigate the association between various audit committee characteristics and earnings management. Since all the coefficients on the interaction terms between audit committee characteristics and family firm are insignificant, there is no evidence that family firms mitigate the audit committee effectiveness. The results are more consistent with the agency theory perspective.

5.3.4 Committee restructuring and earnings management

The regression results to evaluate the impact of restructuring firms on the association between earnings management and audit committee characteristics are reported in Table 9. Consistent with the previous results, the coefficient on ACExpert is negative and significant at the 10% level. This result suggests that ACExpert is associated with less earnings management. The coefficient on ACIndep is insignificant. The coefficient on ACMeet is positive and significant at the 10% level.

Since none of the coefficients on DRAC*ACIndep, DRAC*ACExpert and DRAC*ACMeet is significant, there is no evidence to support that the relationship between audit committee independence (financial expertise or diligence) and earnings

management is significantly different between the restructuring and the non-restructuring firms.

Insert Table 9 here

Under the institutional theory perspective, the restructuring firms are more likely to decouple due to the fact that they are the late adopters and subject to coercive isomorphism resulting from the corporate governance reforms. On the other hand, under the agency theory, audit committee members that meet the definition of independence and expertise should be effective monitors of management's action. Since all the coefficients on the interaction terms between audit committee characteristics and restructuring firm are insignificant, the proposition that firms subject to coercive isomorphism due to the corporate governance reform or late adopters tend to adopt audit committees as symbolic gestures of conformity is not supported. The results are more consistent with the agency theory perspective.

In summary, based on the results from Table 7 to 9, the coefficients on ACExpert are negative and significant (or marginally significant) across all models while the coefficients on ACIndep and ACMeet are only significant in some models. Based on these results, ACExpert is most effective among the three audit committee characteristics in constraining earnings management of Hong Kong listed firms. There is no evidence that the family firms nor the restructuring mitigate the audit committee effectiveness in constraining

earnings management. Therefore, the overall results are more consistent with the agency theory perspective.

For the control variables in Table 7 to 9, consistent with prior literature, the coefficients on σ(CFO) and NegEarn are positive and significant across all models (Francis et al., 2005; Dhaliwal et al., 2010; Srinidhi et al., 2010). The coefficients on Big4 are negative and significant across all models (Francis et al., 1999; Becker et al., 1998; Kim et al., 2003). The coefficients on firm size are positive and significant in some models. The coefficients on σ(Sales) are negative and significant in some models. All other control variables are statistically insignificant.

5.3.5 Additional tests

5.3.5.1 Family firms, restructuring firms and earnings management

Prior Hong Kong studies such as Jaggi and Leung (2007) find that audit committee effectiveness in constraining earnings management is reduced when family members are present on corporate boards. Jaggi et al. (2009) find that the monitoring effectiveness of INED's is reduced in family controlled firms. In addition, Scott (1991) argues that in comparison with voluntarily adopted structural changes, when a new structural pattern is imposed on organizational managers, one would expect the acquired changes to be more superficial. Organizational managers should be less committed to such changes. Similarly, the institutional theory perspective suggests that a firm is more likely to decouple if they are late adopters of an innovation or

subject to coercive isomorphism (Zucker, 1987; DiMaggio, 1991; Kalbers and Fogarty, 1998).

In this additional analysis, I examine whether family firms that are required to restructure their audit committees due to the corporate governance reform would moderate the effectiveness of various audit committee characteristics. I include the family control proxies, dummy variable for restructuring firms and all interaction terms with the three audit committee characteristics to run a pooled cross sectional regression as follows:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 DRAC_i + \beta_3 FAM*DRAC + \beta_4 ACIndep_{it} + \beta_5 ACExpert_{it} + \beta_6 ACMeet_{it} + \beta_7 FAM_{it}*ACIndep_{it} + \beta_8 FAM_{it}*ACExpert_{it} + \beta_9 FAM_{it}*ACMeet_{it} + \beta_{10} DRAC_i*ACIndep_{it} + \beta_{11} DRAC_i*ACExpert_{it} + \beta_{12} DRAC_i*ACMeet_{it} + \beta_{13} FAM_{it}*DRAC_i*ACIndep_{it} + \beta_{14} FAM_{it}*DRAC_i*ACExpert_{it} + \beta_{15} FAM_{it}*DRAC_i*ACMeet_{it} + \text{Control variables} + \mu_{it} \quad (8)$$

The control variables are same as those described in equation (5).

The variables of interest here are the coefficients on FAM*DRAC*ACIndep (β_{13}), FAM*DRAC*ACExpert (β_{14}) and FAM*DRAC*ACMeet (β_{15}) which test whether there are any significant relationships between audit committee independence, financial expertise, diligence of restructuring family firms and earnings management.

Due to some sample firms do not disclose their audit committee composition and/or number of audit committee meeting before 2005,

the sample size is reduced to 822 firm-year observations. The results are presented in Table 10. Consistent with the results in previous models (Table 7 to 9), the coefficients of ACExpert are negative and statistically significant using both FAM_OWN and %FAM_BOD. The coefficients on ACIndep are insignificant. The coefficients on ACMeet are positive and significant. This together with the results in the main analyses before provide strong and consistent evidence that ACExpert is associated with less earnings management for Hong Kong listed firms. On the other hand, there is no consistent evidence that ACIndep or ACMeet are associated with less earnings management.[18]

For the interaction terms, the coefficients on FAM*ACExpert are positive and significant at the 10% level using %FAM_BOD only. The coefficients on FAM*DRAC*ACExpert are negative and statistically significant at the 5% level. The coefficients on all other interaction terms are insignificant. Therefore, there is no evidence that family firms or the restructuring firms moderate audit committee effectiveness.

The results that the coefficients on FAM*DRAC*ACExpert are negative and significant show that ACExpert of family firms that restructured their audit committees are associated with significantly less earnings management. The audit committee accounting financial

[18] In the additional analysis in section 5.3.5.2, I find that accounting financial experts are associated with less earnings management. However, no consistent evidence is found for ACIndep or ACMeet.

experts of the restructuring firms are typically appointed following the corporate governance reform only because there is no financial expertise requirements before and shortage of accounting financial experts are the most often cited problem in complying with the new rules. As a result, accounting financial experts of the restructuring firms are expected to have shorter tenure compared with that of non-restructuring firms.

Consistent with Dhaliwal et al. (2010), they find that audit committee accounting experts who have shorter tenure in their firms are associated with better accruals quality. Dhaliwal et al. suggest that long serving audit committee experts may become less independent and more likely to be influenced by management over time. This problem may be even more severe for family firms in Hong Kong. It seems that the mandatory audit committee expertise requirements significantly constrain the ability of family firms with weak audit committees before the reform[19] to engage in earnings manipulation.

In addition, the sign of coefficients of FAM and DRAC are mixed and statistically insignificant in all models. Therefore, though family firms are associated with less audit committee independence and financial expertise, the results do not support that family firms are

[19] That is, family firms which are required to restructure their audit committees due to the corporate governance reform.

associated with lower financial reporting quality.

As suggested by Ali et al. (2007), family firms face less severe Type I agency problems because of their ability to directly monitor the managers. This enables family firms to tie less management compensation to accounting based performance measures and consequently, their reported numbers are less likely to be manipulated due to managerial opportunism. Moreover, better knowledge of the firm's business activities by family owners enables them to detect manipulation of reported numbers, thereby curbing such activity. Therefore, earnings manipulation due to Type I agency problems is less likely to occur in family firms.

On the other hand, family firms face more severe Type II agency problems because of families' significant stock ownership and control over the firms' board of directors. Family firms' boards tend to be less independent and are dominated by family members. Type II agency problems may also lead to manipulation of accounting earnings, for instance, to hide the adverse effects of related party transactions or to facilitate family members' entrenchment in management positions.

Though family firms are associated with less audit committee independence and less financial expertise, there is no evidence that family firms are associated with lower financial reporting quality compared with non-family firms. It seems that the lower agency costs of family firms due to Type I agency problems dominate the

higher agency costs due to type II agency problems. In other words, the benefits of effective family monitoring outweight the costs of family entrenchment in relation to financial reporting quality for Hong Kong family firms. This is consistent with Ali et al. (2007) and Wang (2006) which find family firms report better quality earnings.

Insert Table 10 here

5.3.5.2 Accounting and non-accounting financial experts

Since audit committee financial expertise is associated with less earnings management, I use the percentage of accounting financial experts[20] and the percentage of non-accounting financial experts[21] to run equation (5) separately again. The regression model is as follows:

$$AQ_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 \sigma(CFO_{it}) + \beta_6 \sigma(Sales_{it}) + \beta_7 OpCycle_{it} + \beta_8 NegEarn_{it} + \beta_9 MB_{it} + \beta_{10} DA_{it} + \beta_{11} Duality_{it} + \beta_{12} ROA_{it} + \beta_{13} Big4_{it} + \beta_{14} Yr2_t + \beta_{15} Yr3_t + \beta_{16} Yr4_t + \mu_{it} \quad (9)$$

Where
ACExpert = AFE or NAFE
AFE = Percentage of accounting financial experts in the audit committee.
NAFE = Percentage of non-accounting financial experts in the audit committee.

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[20] Following DeFond et al. (2005b), an accounting financial expert is defined as a person who has previously held or currently holds a job directly related to accounting and auditing expertise. These experts include CPAs, CFOs, controllers and auditors.

[21] Non-accounting financial experts include those who have previously held or currently hold positions such as managing director in investment banking or venture capital firms, or accounting or finance professors, as well as persons who have worked as CEOs or presidents of business corporations.

All other variables are same as defined before.

The regression results are presented in Table 11. Consistent with the results in Table 7, the coefficient on ACExpert using AFE (Model 1) is negative and significant suggesting accounting financial experts are effective in constraining earnings management. However, the coefficient on ACExpert using NAFE (Model 2) whilst remaining negative becomes statistically insignificant. In fact, the coefficient estimate of NAFE is only about 35% (-0.012/-0.034) of AFE. The results suggest that accounting financial experts are more effective than non-accounting financial experts in constraining earnings management of Hong Kong listed firms.

Insert Table 11 here

Similarly, I use AFE and NAFE to run equation (8) separately again. The regression model is as follows:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 DRAC_i + \beta_3 FAM*DRAC + \beta_4 ACIndep_{it} + \beta_5 ACExpert_{it} + \beta_6 ACMeet_{it} + \beta_7 FAM_{it}*ACIndep_{it} + \beta_8 FAM_{it}*ACExpert_{it} + \beta_9 FAM_{it}*ACMeet_{it} + \beta_{10} DRAC_i*ACIndep_{it} + \beta_{11} DRAC_i*ACExpert_{it} + \beta_{12} DRAC_i*ACMeet_{it} + \beta_{13} FAM_{it}*DRAC_i*ACIndep_{it} + \beta_{14} FAM_{it}*DRAC_i*ACExpert_{it} + \beta_{15} FAM_{it}*DRAC_i*ACMeet_{it} + \text{Control variables} + \mu_{it} \quad (10)$$

Where
ACExpert = AFE or NAFE
AFE = Percentage of accounting financial experts in the audit committee.
NAFE = Percentage of non-accounting financial experts in the audit committee.
All other variables are same as defined before.

The regression results are reported in Table 12. The coefficients on ACExpert are similar to those in Table 11. The coefficients on ACExpert using AFE are significantly negative but insignificant using NAFE. The results again suggest that accounting financial experts (but not non-accounting financial experts) are associated with less earnings management for Hong Kong listed firms. The coefficients on ACIndep, ACMeet and all other interaction variables are either insignificant or significant in some models only.

Insert Table 12 here

For the control variables, consistent with prior literature, the coefficients on σ(CFO) and NegEarn are positive and significant across all models. The coefficients on Big4 are negative and significant across all models. The coefficients on firm size are positive and significant in some models. The coefficients on σ(Sales) and Yr4 are negative and significant in some models. All other control variables are statistically insignificant.

5.3.5.3 Strong and weak governance firms

Some recent studies such as Srinidhi et al. (2010) confirm Wang's (2006) result that family firms have higher earnings quality but suggest that the result is driven by family firms that choose stronger corporate boards. They interpret the results as strong-governance family firms signal their transparency to the market and separate themselves from other family firms.

I run the audit committee characteristics model (equation (5)) using family firms only. The family firm sample is then partitioned by board independence. The family firms with board independence less than or equal to (greater than) the median are classified as low (high) board independence.

The results reported in Table 13[22] show that the intercept for the subsample of family firms with low (high) board independence are positive and significant (positive but insignificant). Consistent with Srinidhi (2010), family firms with weaker corporate boards are associated with lower financial reporting quality.

Consistent with previous results, the coefficients on ACExpert are negative and significant for all family firms and the subsample of family firms with weak corporate boards. The coefficient on ACExpert is negative but insignificant for the subsample of family firms with strong corporate boards. In fact, the coefficient on ACExpert for weak governance firms is much larger than that of strong governance firms (-0.059 vs. -0.011).

Insert Table 13 here

Since the sample period is immediately after the corporate governance reform in 2004, it seems that the mandatory audit

[22] Family ownership is used as proxy for family firm in Table 13. The results (unreported) using percentage of family members on the board of directors as proxy for family firms are qualitatively similar.

committee expertise requirement significantly constrains the ability of family firms with weak governance to engage in earnings manipulation.

5.3.6 Robustness tests

5.3.6.1 Multicollinearity

For the audit committee determinant models, the highest correlation (0.46) among the control variables is the correlation observed between board size and firm size. Therefore, I run all the three audit committee determinant models again using either one of the two variables. The results are qualitatively the same. That is, family firms are associated with less audit committee independence and expertise.

For the audit quality models, the highest correlation (0.46) among the control variables are observed between σ(CFO) and σ(Sales). Therefore, I run all the accruals quality models again using either one of the two variables. The results are qualitatively the same except that the coefficient on FAM*DRAC*ACExpert in Model 1, Table 10 become marginally significant at the 10.7% level.

5.3.6.2 Cut-off point of family ownership percentage

I perform sensitivity checks by varying the family ownership's cut-off point from 20% to 25 and 30%. The results are qualitatively the same using different cut-off points in classifying the family and non-family firms.

5.3.6.3 Sample period

In the first year after the corporate governance reform, some firms may not have complied fully with the new requirements. One of the most often cited reasons being unable to find qualified financial experts to serve in the audit committees. In addition, for some companies, the audit committees may be set up just before year end, it may not have reviewed the financial statements throughout the reporting period. Therefore, as a robustness test, I use the data from the second, third and fourth year after the reform to run all the regressions again. The results are qualitatively the same after excluding the first year observations.

5.3.6.4 Industry

It is argued that different industries may be associated with different levels of audit committee independence, financial expertise and diligence. Though existing literature generally does not include the industry controls, I add Fama and French (1997) industry groups as categorical dummy variables and run equation (1) to (3) again as robustness tests. The results are qualitatively the same. That is, family firms are still associated with less audit committee independence and less financial expertise after including the industry controls.

5.3.6.5 Earnings benchmark test of small positive earnings

I also conduct an earnings benchmark test to evaluate whether various audit committee characteristics have an effect on earnings

management. Degeorge et al. (1999) identify three thresholds that help drive earnings management: the first is to report profits. This threshold arises from the important psychological distinction between positive and negative numbers. The second threshold is the performance relative to the prior period. The third threshold is performance relative to analysts' earnings projections. Degeorge et al. find that these thresholds are hierarchically ordered; it is most important first to make positive profits, followed by earnings increases and finally meeting analysts' expectation.

Therefore, I modify Ashbaugh et al. (2003) and Jaggi et al. (2009)'s logistic model for the earnings benchmark test as follows:

$$SMALL\_EARN_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 MB_{it} + \beta_6 Big4_{it} + \beta_7 Block_{it} + \beta_8 LitigationRisk_{it} + \beta_9 Yr2_t + \beta_{10} Yr3_t + \beta_{11} Yr4_t + \mu_{it} \quad (11)$$

where SMALL_EARN represents small earnings and is coded 1 when the current year's net income, scaled by total assets, falls in the interval [0.00, 0.02], and 0 otherwise. All the other variables are same as defined before.

The regression results are reported in Model 1 of Table 14. The sample size is 1240 observations[23], of which 185 observations report

[23] Due to the earnings benchmark tests do not required the use of the innate accruals quality factors as control variables, the sample size increase from 1196 to 1240 observations.

small earnings. Consistent with the previous results, the coefficient on ACExpert is significantly negative. The coefficients on ACIndep and ACMeet are negative but insignificant. The results suggest that ACExpert (but not ACIndep nor ACMeet) is associated with lower likelihood of reporting small positive earnings.

I conduct another earnings benchmark test to evaluate whether family firms mitigate the effectiveness of various audit committee characteristics in constraining earnings management. The logistic model is as follows:

$$SMALL\_EARN_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FAM_{it} + \beta_5 FAM_{it} * ACIndep_{it} + \beta_6 FAM_{it} * ACExpert_{it} + \beta_7 FAM_{it} * ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 MB_{it} + \beta_{10} Big4_{it} + \beta_{11} Block_{it} + \beta_{12} LitigationRisk_{it} + \beta_{13} Yr2_t + \beta_{14} Yr3_t + \beta_{15} Yr4_t + \mu_{it} \quad (12)$$

The results are reported in Model 2 and 3 of Table 14. Consistent with the previous results, the coefficients on ACExpert are negative and significant at the 11% and 7% level using FAM_OWN and %FAM_BOD respectively. The coefficients on the interaction terms between family firms and audit committee characteristics are all insignificant. These results are consistent with the main results that ACExpert is effective in constraining earnings management and there is no evidence that family firms mitigate the audit committee effectiveness in constraining earnings management. The results are qualitatively the same if SMALL_EARN is coded 1 when the current year's net income, scaled by total assets, falls in the interval [0.00, 0.01].

Insert Table 14 here

5.3.6.6 Family cluster

Some critics argue that family firms may be concentrated in some industries which may affect the results. Using family ownership percentage as proxy for family control, family firms account for about 44% of the entire sample. Family firms are found to have the highest concentration rate (70%) in business supplies industry. This is the only industry which family firm concentration is more than 50% higher than the average concentration rate. This industry accounts for 10 firms out of the 385 firms in my sample. I run all the regressions again after excluding all the observations in this industry and find similar results.

5.3.6.7 Specialist auditor

Simunic (1980) points to a substitution effect between internal controls and external auditing. Arguably, a firm will choose a governance mix that in equilibrium will see trade-offs between resources expended on various corporate governance mechanisms such as audit committee and external auditing. Therefore, the quality of auditor may affect the audit committee composition and effectiveness.

Ferguson et al. (2003) document that there is an average audit fee premium of 24 percent associated with industry expertise when the auditor is both the city-specific industry leader and one of the top two firms nationally in the industry. The results suggest that the audit

quality of the Big4 firms is not the same across all industries. Therefore, instead of using the Big4 dummy, I use a dummy for specialist auditor to more precisely measure the auditor quality.

Craswell and Taylor (1991) and Ferguson et al. (2002), use two measures of auditor specialization (1) the percentage of companies audited, which is an unweighted measure of market share: and (2) the audit firm share of total industry audit fees. The second measure incorporates size weighting into market share (weighted by audit fees). Since audit fee data is not readily available for Hong Kong listed firms, I use total assets of the client companies to compute the weighted measure of market share. In addition, Craswell and Taylor (1991) and Ferguson et al. (2002) consider auditors to be specialists if they attain a 10 percent market share. Since there are only four big audit firms (instead of Big8/6/5) in my sample period, I use 20% instead of 10% cut-off point for specialist auditors.

I run all the regressions again using the specialist auditor dummy instead of the Big4 dummy and the results are qualitatively the same. In fact, the results are slightly stronger, for example, the coefficients on ACExpert in table 8 become significant at 7.2% and 6.5% level[24] for model 1 and 2 respectively instead of marginally significant.

[24] The reported significance are based on the weighted measure of market share. The results are similar using the unweighted measure.

CHAPTER 6 CONCLUSIONS

6.1 Introduction

This chapter concludes the study. Section 6.2 summarizes the motivations, arguments and the main findings of the study. Section 6.3 draws attention to some limitations of this study.

6.2 Overview of this study

The existing literature mainly focuses on examining the effect of various audit committee characteristics on financial reporting quality. There are few studies which examine the economic determinants on audit committee characteristics. To the best of my knowledge, this is the only study that examines the association between family firms and audit committee characteristics.

In addition, empirical evidence on the association between various audit committee characteristics and earnings management are not conclusive. It is possible that certain audit committee characteristics that can reduce earnings management in the western developed countries may not be effective in Hong Kong/China business environment.

This study uses the more detailed audit committee information made available after the corporate governance reform in 2004 to examine the relationship between various audit committee

characteristics and earnings management using a large sample of Hong Kong listed firms. Furthermore, this is the first study that examines how family firms may affect the association between audit committee characteristics and earnings management.

The results show that family firms are associated with less independent audit committees and less financial expertise right after the corporate governance reform. In addition, using accruals quality as proxy of earnings management, I find that audit committee financial expertise (but not audit committee independence nor diligence) is associated with less earnings management.

I do not find any evidence that family firms nor firms that restructured their audit committees due to the corporate governance reform ("the restructuring firms") moderate the effectiveness of audit committee in constraining earnings management.

Furthermore, though family firms are associated with less audit committee independence and financial expertise, there is no evidence that family firms are associated with lower earnings quality.

I also find that audit committee expertise of family firms which restructured their audit committees due to the corporate governance reform are associated with less earnings management. One possible explanation is that the audit committee accounting financial experts of the restructuring firms are typically appointed following the corporate

governance reform only because there is no financial expertise requirements before. As a result, accounting financial experts of the restructuring firms are expected to have shorter tenure compared with that of non-restructuring firms. Consistent with Dhaliwal et al. (2010), they find that audit committee accounting experts who have shorter tenure in their firms are associated with better accruals quality. Dhaliwal et al. suggest that long serving audit committee experts may become less independent and more likely to be influenced by management over time. This problem may be even more severe for family firms. However, this is just one possible explanation. As audit committee tenure information is not readily available, further research is required to ascertain the association between audit committee tenure and earnings management for Hong Kong listed firms.

In the additional analysis, I also find that audit committee accounting financial experts (but not non-accounting financial experts) are associated with less earnings management for Hong Kong listed firms.

Overall, the results are more consistent with the agency theory perspective. The audit committees of Hong Kong listed companies seem to provide substantive monitoring instead of merely serve as symbolic displays of conformity based on the data made available by the corporate governance reform.

6.3 Limitations of this study

There are several limitations in this study. First of all, our categorization of audit committee members as an accounting financial expert or non-accounting financial expert is dependent on the firms' public disclosure. The quality and transparency of this disclosure is likely to vary across firms.

Second, the shareholdings variable can only be hand collected for Hong Kong listed firms. Due to the complex shareholding structures in some sample firms, there are potential measurement errors. Therefore, in addition to family ownership, I also use family presence on board of directors as alternative proxy. The results are essentially the same using both proxies.

Third, I am only able to test for association, not causation, between family firms, audit committee characteristics and earnings quality. As audit committee data was not available before the reform, no attempt is made to compare the associations before and after the reform. In addition, the associations found in this study are not necessarily due to the corporate governance reform but may represent conditions existed before the reform.

Lastly, similar to other earnings management studies, the conclusion depends on how good the proxy for earnings management is. As abnormal (discretionary) accruals may be due to managerial opportunism or private information signaling, I believe accruals quality

is a more appropriate proxy in the context of this study.

BIBLIOGRAPHY

Agrawal, A., Chadha, S., 2005. Corporate governance and accounting scandals. Journal of Law and Economics, XLVIII, 371-406.

Alchian, A.A., Demsetz, H, 1972. Production, information costs and economic organization. American Economic Review 5, 777-795.

Ali, A., Chen, T.Y., Radhakrishnan, S., 2007. Corporate disclosure by family firms. Journal of Accounting and Economics 44: 238-286.

Anderson, R., Duru, A., Reeb, D., 2009. Founders, heirs, and corporate opacity in the United States. Journal of Financial Economics 92, 205-222.

Anderson, R., Mansi, S., Reeb, D., 2003. Founding-family ownership and firm performance: Evidence from the S&P500. The Journal of Finance 58: 1301-28.

Anderson, R., Reeb, D., 2004. Balancing family influence in S&P 500 firms. Administrative Science Quarterly 49 (2) 209-237.

Armstrong, S.C., Guay, W.R., Weber, J.P., 2010. The role of information and financial reporting in corporate governance and debt contracting. Working paper, http://ssrn.com/abstract=1571138.

Ashbaugh, H., Collins, D., LaFond, R., 2006. The effects of corporate governance on firms' credit ratings. Journal of Accounting and Economics 42, 203-243.

Ashbaugh, H., LaFond, R., Mayhew, B.W., 2003. Do nonaudit services compromise auditor independence? Further evidence. The Accounting Review 78 (3) 611-639.

Bartov, E., Gul, F.A., Tsui, J., 2001. Discretionary-accruals models and audit qualification. Journal of Accounting and Economics 30: 421-452.

Beasley, M., Carcello, J., Hermanson, D., Neal, T., 2009. The audit committee oversight process. Contemporary Accounting Research 26 (1) 65-122.

Beasley, M., 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. The Accounting Review 71, 443-465.

Beasley, M., Salterio S., 2001. The relationship between board characteristics and voluntary improvements in audit committee composition and experience. Contemporary Accounting Research 18 (4): 539-570.

Becker, C., DeFond, M., Jiambalvo., J. Subramanyam, K., 1998. The effect of audit quality on earnings management. Contemporary Accounting Research 15, 1-24.

Bedard, J., Chtourou S.M., Courteau, L., 2004. The effect of audit committee expertise, independence, and activity on aggressive earnings management. Auditing: A Journal of Practice and Theory 23(2), 13-35.

Berle, A.A., Means, G.C., 1932. The modern corporation and private property. New York: Macmillan.

Bhorjraj, S., Sengupta, P., 2003. Effect of corporate governance on bond ratings and yields: the role of institutional investors and the outside directors. The Journal of Business 76, 455-475.

Bowen, R.M., Rajgoal, S., Venkatachalam, M., 2008. Accounting discretion, corporate governance and firm performance. Contemporary Accounting Research, 25 (2) 351-405.

Bradbury, M.E, Mak, Y.T., Tan, S.M., 2004. Board characteristics, audit committee characteristics and abnormal accruals. Working paper, http://ssrn.com/abstract=535764.

Brickley, J.A., Zimmerman, J.L. 2010. Corporate governance myths: Comments on Armstrong, Guay, and Weber. Working paper, http://ssrn.com/abstract=1681030.

Bronson, S., Carcello, J., Hollingsworth, C., Neal, T., 2009. Are fully independent audit committees really necessary. Journal of Accounting and Public Policy 28, 265-280.

Burns, J., Scapens, R., 2000. Conceptualizing management accounting change: an institutional framework. Management Accounting Research, 11, 3-25.

Bushman, R., Smith, A., 2001. Financial accounting information and corporate governance. Journal of Accounting and Economics 32, 237-333.

Bushman, R., Chen, Q., Engel, E., Smith, A., 2004. Financial accounting information, organizational complexity and corporate governance systems. Journal of Accounting and Economics 37, 167-201.

Carcello, J.V., Neal, T.J., Palmrose, Z.J., Scholz, S., 2007. CEO involvement in selecting board members and audit committee effectiveness. Working paper, University of Tennessee.

Chakrabarty, S., 2009. The Influence of National Culture and Institutional Voids on Family Ownership of Large Firms: A Country Level Empirical Study Journal of International Management, 15(1).

Chen, S., Chen, X., Cheng, Q., 2008. Do family firms provide more or less voluntary disclosure? Journal of Accounting Research, 46 (3) 499-536.

Chen, C., Jaggi, B., 2000. Association between independent non-executive directors, family control and financial disclosures in Hong Kong. Journal of Accounting and Public Policy, 19, 285-310.

Cheng, Q., Warfield, T.D., 2005. Equity incentives and earnings management. The Accounting Review, 80 (2) 441-476.

Claessens, S., Djankov, S., Lang, L., 2000. The separation of ownership and control in East Asian corporations. Journal of Financial Economics 58: 81-112.

Coase, R.H., 1937. The nature of the firm. Economica 4, 386-405.

Coase, R.H., 1960. The problem of social cost. Journal of Law and Economics 3, 1-44.

Cohen, D.A., Dey, A., Lys, T.Z., 2008. Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. The Accounting Review, 83 (3) 757-787.

Cohen, J., Krishnamoorthy, G., Wright, A., 2008. Form versus substance: The implications for auditing practice and research of alternative perspectives on corporate governance. Working paper, http://ssrn.com/abstract=1010201.

Chung, R., Firth, M., Kim, J.B., 2002. Institutional monitoring and opportunistic earnings management. Journal of Corporate Finance 8 (1) 29-48.

Craswell, A., Francis, J., Taylor, S. 1995. Auditor brand name reputations and industry specializations. Journal of Accounting and Economics 20 (3) 297-322.

Craswell, A., Taylor, S. 1991. The market structure of auditing in Australia: The role of industry specialization. Research in Accounting Regulation 5:55-77.

Davidson, R., Goodwin-Stewart, J., Kent, P., 2005. Internal governance structures and earnings management. Accounting and Finance 45, 241-267.

DeAngelo, L.E., 1981. Auditor size and audit quality. Journal of Accounting and Economics, 3, 183-199.

DeAngelo, L.E., 1986. Accounting numbers as market valuation substitutes: A study of management buyouts of public stockholders. The Accounting Review 61: 400-420.

DeAngelo, L.E., 1988. Managerial competition, information costs, and corporate governance: The use of accounting performance measures in proxy contests. Journal of Accounting and Economics (January): 3-36

Dechow, P., 1994. Accounting earnings and cash flows as measure of firm performance: The role of accounting accruals. Journal of Accounting and Economics 18, 3-42.

Dechow, P., Dichev, I., 2002. The quality of accruals and earnings: The role of accrual estimation errors. The Accounting Review 77, 35-60.

Dechow, P., Ge, W., Schrand, C., 2009. Understanding earnings quality: a review of the proxies, their determinants and their consequences. Working paper. http://ssrn.com/abstract=1485858.

Dechow, P., Sloan, R.G., 1991. Executive incentives and the horizon problem: An empirical investigation. Journal of Accounting and Economics 18: 3-42.

Dechow, P., Sloan, R.G., Sweeney, A.P., 1995. Detecting earnings management. The Accounting Review 70(2), 193.

Dechow, P., Sloan, R., Sweeney, A., 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. Contemporary Accounting Research 13, 1-36.

DeFond, M., Frances, J.R., 2005a. Audit research after Sarbanes-Oxley. Auditing: A Journal of Practice & Theory 24 (Supplement): 5-30.

DeFond, M., Hann, R., Hu, X., 2005b. Does the market value financial expertise on audit committees of boards of directors? Journal of Accounting Research 43(2) 153-193.

DeFond, M., Jiambalvo, J., 1991. Incidence and circumstances of accounting errors. The Accounting Review 66, 643-655.

Degeorge, F., Patel, J., Zeckhauser, R., 1999. Earnings management to exceed thresholds. The Journal of Business, 72 (1) 1-33.

Demsetz, H., Lehn, K., 1985. The structure of corporate ownership: causes and consequences. The Journal of Political Economy 93 (6) 1155-1177.

Dey, A., 2008. Corporate governance and agency conflicts. Journal of Accounting Research 46 (5) 1143-1181.

Dhaliwal, D.S., Naiker, V., Navissi, F., 2010. The association between accrual quality and the characteristics of accounting experts and mix of expertise on audit committtee. Working paper. http://ssrn.com/abstract=1548766.

Dillard, J.F., Rigsby, J.T., Goodman, C., 2004. The making and remaking of organization context: Duality and the institutionalization process. Accounting, Auditing and Accountability Journal. 17 (4) 506-438.

DiMaggio, P.J. and Powell, W.W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48, 146-60.

DiMaggio, P.J. and Powell, W.W., 1991. Introduction, in Powell, W.W. and DiMaggio, P.J. (Eds). The New Institutionalism in Organizational Analysis. University of Chicago Press, Chicago, IL, 1-38.

Eisenhardt, K.M., 1988. Agency- and institutional-theory explanations: The case of retail sales compensation. Academy of Management Journal, 31 (3) 488-511.

Ekanayake, S., 2004. Agency theory, national culture and management control systems. The Journal of American Academy of Business. 4 (1/2) 49-54.

Fama, E., French, D., 1997. Industry costs of equity. Journal of Financial Economics 43, 153-193.

Fama, E., 1980. Agency problems and the theory of the firm. Journal of Political Economy 88, 288-307.

Fama, E., Jensen, M., 1983. Separation of ownership and control. Journal of Law and Economics 26: 301-325.

Fan, J., Wong, T., 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. Journal of Accounting and Economics 33, 401-425.

Fan, J., Wong. T., 2005. Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. Journal of Accounting Research 43 (1) 35-72.

Farber, D., 2005. Restoring trust after fraud: does corporate governance matter? The Accounting Review 80, 539-561.

Ferguson, A., Francis, J., Stokes, D., 2003. The effects of firm-wide and city-specific industry expertise on audit pricing. The Accounting Review 78, 429-448.

Ferguson, A., Francis, J., Stokes, D., 2006. What matters in audit pricing: industry specialization or overall market leadership? Accounting and Finance 46, 97-106.

Ferguson, A., Stokes, D., 2002. Brand name audit pricing, industry specialization and leadership premiums post Big 8 and Big 6 mergers. Contemporary Accounting Research 19, 77-110.

Francis, J., LaFond, L., Olsson, P., Schipper, K., 2004. Costs of equity and earnings attributes. The Accounting Review 79 (4) 967-1010.

Francis, J., LaFond, L., Olsson, P., Schipper, K., 2005. The market pricing of accruals quality. Journal of Accounting and Economics 39, 295-327.

Francis, J., Maydew, E., Sparks, H., 1999. The role of Big 6 auditors in the credible reporting of accruals. A Journal of Practice and Theory 18, 17-34.

Francis, J., Stokes, D., 1986. Audit prices, product differentiation, and scale economies: Further evidence from the Australian audit market. Journal of Accounting Research 24 (2) 383-393.

Frankel, R., Johnoson, M., Nelson, K., 2002. The relation between auditors' fees for nonaudit services and earnings management. The Accounting Review 77:71-105.

Gendron, Y., Bedard, J., Gosselin, M., 2004. Getting inside the black box: A field study of practices in “effective” audit committees. Auditing: A Journal of Practice and Theory 23 (1) 153-171.

Gerety, M., Lehn, K., 1997. The causes and consequences of accounting fraud. Managerial and Decision Economics 18, 587-599.

Guay, W., Kothari, S.P., Watts, R., 1996. A market-based evaluation of discretionary accrual models. Journal of Accounting Research 34, 83-115.

Hermalin, B., Weisbach, M., 1991. The effects of board composition and direct incentives on firm performance. Financial Management 20,101-112.

He, L., Labelle, R., Piot, C., Thornton, D., 2008. Board monitoring, audit committee effectiveness and financial reporting quality: review and synthesis of empirical evidence. Working paper, http://ssrn.com/abstract=1159453.

Healy, P.M., Wahlen, J., 1999. A review of the earnings management literature and its implications for standard setting. Accounting Horizons 13, 365-383.

Healy, P.M., 1985. The effect of bonus schemes on accounting decisions. Journal of Accounting and Economics (April): 85-107.

Ho, S., Wong, K., 2001. A study of the relationship between corporate governance structures and the extent of voluntary disclosure. Journal of International Accounting, Auditing & Taxation 10, 139-156.

Jaggi, B., Leung, S. 2007. Impact of family dominance on monitoring of earnings management by audit committees: Evidence from Hong Kong. Journal of International Accounting, Auditing and Taxation 16: 27-50.

Jaggi, B., Leung, S., Gul, F., 2009. Family control, board independence and earnings management: Evidence based on Hong Kong firms. Journal of Accounting and Public Policy 28, 281-300

Jensen, M., 1993. The modern industrial revolution, exit and the failure of internal control systems. Journal of Finance 48 (3) 831-880.

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. Journal of Financial Economics 3: 305-360.

Jones, J., 1991. Earnings management during import relief investigations. Journal of Accounting Research 29 (Autumn), 1993-228.

Jones, K., Krishnan, G., Melendrez, K., 2008. Do models of discretionary accruals detect actual cases of fraudulent and restated earnings? An empirical analysis. Contemporary Accounting Research, 25, 499-531.

Kalbers, L., Fogarty, T., 1998. Organizational and economic explanations of audit committee oversight. Journal of Managerial Issues Vol.X (2) Summer 1998: 129-150.

Kasznik, R., 1999. On the association between voluntary disclosure and earnings management. Journal of Accounting Research 37 (1), 57.

Kim, J.B., Chung, R., Firth, M., 2003. Auditor conservatism, asymmetric monitoring, and earnings management. Contemporary Accounting Research 20 (2) 323-359.

Klein, A., 1998. Economic determinants of audit committee composition and activity. New York University, Center for Law and Business, Working Paper #CLB-98-011.

Klein, A., 2002a. Audit committee, board of director characteristics, and earnings management. Journal of Accounting and Economics 33 pg.375-400.

Klein, A., 2002b. Economic determinants of audit committee independence. The Accounting Review 77 (2) 435-452.

Koh, P., Laplante, S.K., Tong, Y.H., 2007. Accountability and value enhancement roles of corporate governance. Accounting and Finance 47, 305-333.

Kothari, S.P., Leone, A.J., Wasley, C.E., 2005. Performance matched discretionary accrual measures. Journal of Accounting and Economics 39: 163-197.

Krishnan, J., Lee, J. E., 2009. Audit committee financial expertise, litigation risk, and corporate governance. Auditing: A Journal of Practice & Theory, 28 (1) 241-261.

La Porta, R., Lopez-de-Silances, F.L., Shleifer, A., Vishny, R.W., 1998. Law and finance. Journal of Political Economy 106, 1113-1155.

Larcker, D.F., Richardson, S.A., Tuna, I., 2007. Corporate governance, accounting outcomes, and organizational performance. The Accounting Review, 82 (4) 963-1008.

Laux, C., Laux, V., 2009. Board committees, CEO compensation, and earnings management. The Accounting Review 84 (3) 869-891.

Leuz, C., Nanda, D., Wysocki, P.D., 2003. Earnings management and investor protection: an international comparison. Journal of Financial Economics 69, 505-527.

Levitt, Arthur (2002) with Paula Dwyer, Take on the street: what Wall Street and corporate America don't want you to know; what you can do to fight back. Pantheon Books, New York.

Lim, C., Tan, H., 2009. Does auditor tenure improve audit quality? Moderating effects of industry specialization and fee dependence. Working paper. http://ssrn.com/abstract=1638530.

McNichols, M., 2002. Discussion of the quality of accruals and earnings: the role of estimation errors. The Accounting Review 77 (Supplement), 61-69.

Meyer, J.W. and Rowan, B., 1977. Institutionalized organizations: formal structure as myth and ceremony. American Journal of Sociology, 83, 340-63.

Mezias, S.J., 1990. An institutional model of organizational practice: financial reporting at the Fortune 200. Administrative Science Quarterly, 35, 431-457.

Mitton, T., 2002. A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. Journal of Financial Economics 64, 215-241.

Morck, R., Shleifer, A., Vishny, R., 1988. Management ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-315.

O'Connor, N.G., Ekanayake, S., 1998. Culture's influence on budget emphasis; some method issues and further evidence. Asia-Pacific Journal of Accounting 241-265.

Orton, J.D., Weick K.E., 1990. Loosely coupled systems: a reconceptualization. The Academy of Management Review 15 (2) 203- 223.

Osma, B.G., Noguer, B.G., 2007. The effect of the board composition and its monitoring committees on earnings management: evidence from Spain. Corporate Governance: An International Review. 15(6) 1413-1428.

Palmrose, Z., 1986. Audit fees and auditor size: Further evidence. Journal of Accounting Research 24 (1) 97-110.

Palmrose, Z., 1988. An analysis of auditor litigation and audit service quality. The Accounting Review 63, 55-73.

Peasnell, K., Pope, P., Young, S. 2005. Board monitoring and earnings management: Do outside directors influence abnormal accruals? Journal of Business Finance and Accounting 32 (7) & (8) 1311-1346.

Petra, S., 2007. The effects of corporate governance on the informativeness of earnings. Economics of Governance 8:129-152.

Piot, C., Janin, R., 2007. External auditors, audit committees and earnings management in France. European Accounting Review 16(2), 429-454.

Raghunandan, K., Rama, D., 2007. Determinants of audit committee diligence. Accounting Horizons, 21 (3), 265-279.

Ross, S.A., 1972. The Economic theory of agency: The principal's problem. Amercian Economic Review, 63, 134-139.

Roychowdhury, S., 2006. Earnings management through real activities manipulation. Journal of Accounting and Economics 42: 335-370.

Scott, W.R., 1991. Unpacking institutional Arguments, in Powell, W.W. and DiMaggio, P.J. (Eds), The New Institutionalism in Organizational Analysis. University of Chicago Press, Chicago, IL, 164-182.

Sharp, D.J., Salter, S.B., 1997. Project escalation and sunk costs: A test of the international generalizability of agency and prospect theories. Journal of International Business Studies, 101-121.

Simunic, D. 1980. The pricing of audit services: Theory and Evidence. Journal of Accounting Research 18 (1): 161-90.

Spira, L., 1999. Ceremonies of governance: Perspectives on the role of the audit committee. Journal of Management and Governance 3 (3), 231-60.

Shleifer, A., Vishny, R.W., 1997. A survey of corporate governance. The Journal of Finance, Vol LII, 2, 737-783.

Srinidhi, B., Gul, F., 2007. The differential effects of auditors' nonaudit and audit fees on accrual quality. Contemporary Accounting Research, 24, 595-629.

Srinidhi, B., He, S., Firth, M., 2010. Choice of board governance and auditing in U.S. family firms. Working paper. City University of Hong Kong.

Subramanyam, K.R., 1996. The pricing of discretionary accruals. Journal of Accounting and Economics 22: 249-281.

Taylor, D.W., 1995. Budget-related behavior in transnational organizational setting: Contingency-agency-cultural influences". PhD thesis, The University of Hong Kong.

Teoh, S., Wong, T., 1993. Perceived auditor quality and earnings response coefficient. The Accounting Review 68, 346-366.

Vafeas, N., 2005. Audit committees, boards, and the quality of reported earnings. Contemporary Accounting Research 22 (4), 1093-1122.

Verrecchia, R.E., 2001. Essays on disclosure. Journal of Accounting and Economics 32, 97-180.

Wang, D., 2006. Founding family ownership and earnings quality. Journal of Accounting Research 44 (3), 619-656.

Warfield, T., Wild, J., Wild, K., 1995. Managerial ownership, accounting choices, and informativeness of earnings. Journal of Accounting and Economics 20, 61-91.

Weber, J., Willenborg, M., 2003. Do expert informational intermediaries add value? Evidence from auditors in microcap IPOs. Journal of Accounting Research 41, 681-720.

Weick, K.E., 1976. Education organizations as loosely coupled systems. Administrative Science Quarterly, March, vol.21, 1-19.

White, H., 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica 48, 817-838.

Xie, B., Davidson, W., DaDalt, P., 2003. Earnings management and corporate governance: the role of the board and the audit committee. Journal of Corporate Finance 9, 295-316.

Yang, J.S., Krishnan, J., 2005. Audit committees and quarterly earnings management. International Journal of Auditing 9, 201-219.

Zucker, L.G., 1987. Institutional theories of organization. Annual Review of Sociology, 13:443-64.

TABLES

Table 1: Sample firms by industry

Industry Group	Number of Firms
Food products, alcoholic beverages	17
Recreational products	16
Entertainment, printing and publishing	21
Consumer goods	14
Apparel	17
Healthcare, pharmaceutical products	18
Chemicals, rubber and plastic products	17
Textiles	13
Construction materials	11
Construction	18
Steel	12
Machinery, electrical equipment	18
Automobiles and trucks	14
Business services	26
Computer, electronic equipment	39
Business supplies	10
Wholesale	49
Retail	24
Restaurants, hotel, motel	31
Total	385

The above table shows the number of sample firms by Fama and French (1997) industry group.

Table 2: Variable definitions

Variable name	Variable measurement
Panel A: Test variables	
FAM_OWN	= Percentage of common stock owned by family members.
%FAM_BOD	= Percentage of directors from the same family on the board of directors.
ACIndep	= Percentage of outsiders (INEDs) on audit committee.
ACExpert	= Percentage of accounting and non-accounting financial experts on audit committee.
ACMeet	= Natural log of the number of audit committee meeting.
AQ	= Standard deviation of firm residual, from years t-4 to t from annual cross-sectional estimations of the Francis et al. (2005) model.
DRAC	= 1 if a firm restructured its audit committee during the corporate governance reform in 2004; 0 otherwise.

Variable name	Variable measurement
Panel B: Control variables	
BODSize	= Natural log of the number of board members.
BODIndep	= Percentage of outside directors on the board.
MB	= Ratio of market value to book value as of the year-end
Losses	= 1 if the firm reported losses for each of the past 2 years (year t and t-1), and 0 otherwise.
DA	= Debt-to-assets ratio as of year end.
Block	= 1 if a non-insider holds at least 5 percent of the firm's shares, else 0.
FirmSize	= Natural log of market value of the firm.
σ(CFO)	=Standard deviation of cash flow from operations (scaled by average total assets), calculated over the past seven years.
σ(Sales)	=Standard deviation of sales (scaled by average total assets), calculated over the past seven years.
OpCycle	= Length of operating cycle measured as the sum of days accounts receivable and days inventory.
NegEarn	= Proportion of loss (negative earnings) years out of the past seven years. I require at least four observations in the 7-year window.
LitigationRisk	= 1, if a firm is in any of the following sectors; pharmaceuticals (SIC codes of 2833-2836), computers (3570-3577), electronics (3600-3674), retail (5200-5961), or software (7370); 0 otherwise.
ACSize	= Natural log of number of audit committee members.
Segment	= Natural log of the number of business segments.
BODMeet	= Natural log of number of board meeting during the year.
Duality	= 1 if the CEO and the chairman of the board of directors are the same person; 0 otherwise.
ROA	= Ratio of net income before extraordinary items to total assets.
Big4	= 1 for Big-4 auditor; 0 otherwise.

Yr2	= 1 if it is the second annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.
Yr3	= 1 if it is the third annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.
Yr4	= 1 if it is the fourth annual report after the corporate governance reform which took effect on 30 September 2004; 0 otherwise.

The above table shows the variable definitions of the test variables (Panel A) and control variables (Panel B) used in the regression analyses.

Table 3: Descriptive statistics and correlation matrix

Panel A: Descriptive statistics

	FAM_OWN	%FAM_BOD	ACIndep	ACExpert	ACMeet
N	1538	1538	1480	1467	1244
mean	0.221	0.180	0.930	0.663	2.674
sd	0.275	0.202	0.129	0.266	1.040
min	0	0	0.4	0	1
median	0	0.143	1	0.667	2
max	0.965	0.875	1	1	12

	AQ	BODSize	BODIndep	MB	DA
N	1505	1540	1540	1540	1540
mean	0.098	8.691	0.387	1.955	0.191
sd	0.108	2.355	0.099	16.274	0.194
min	0.009	4	0.133	-338.092	0
median	0.059	8	0.375	0.984	0.155
max	0.857	22	0.750	467.591	2.160

	FirmSize	ACSize	Segment	BODMeet	σ(CFO)
N	1540	1480	1539	1185	1520
mean	6.684	3.239	2.946	6.850	0.075
sd	1.708	0.533	1.510	6.310	0.062
min	1.999	2	1	2	0.004
median	6.469	3	3	5	0.059
max	13.285	6	11	66	0.574

	σ(Sales)	NegEarn	OpCyc	ROA
N	1521	1537	1523	1540
mean	0.225	0.284	5.005	0.014
sd	0.279	0.321	0.828	0.249
min	0.005	0	0.559	-2.464
median	0.148	0.143	4.961	0.041
max	5.162	1	11.843	5.870

Dichotomous variables	**0**		**1**		**Total**
Losses	1298	84.3%	242	15.7%	1540
Block	466	30.3%	1072	69.7%	1538
LitigationRisk	1220	79.2%	320	20.8%	1540
Duality	1045	68.0%	491	32.0%	1536
Big4	376	24.4%	1164	75.6%	1540
DRAC	92	31.3%	202	68.7%	294

ACMeet, BODSize, ACSize and BODMeet above are reported in raw forms (i.e. before log transformation).

Table 3: Descriptive statistics and correlation matrix (Cont'd)

Panel B: Difference of Means Tests between family and non-family firms

		Mean		
		Family firms	Non-family firms	Difference t-statistics
	Financial characteristics			
1	MB	1.343	2.405	-1.27
2	DA	0.186	0.195	-0.87
3	FirmSize	6.542	6.789	-2.82*
4	ROA	0.041	-0.006	3.63*
	Corporate governance characteristics			
5	ACIndep	0.910	0.944	-5.15*
6	ACExpert	0.618	0.697	-5.73*
7	ACMeet	2.560	2.728	-2.16
8	BODSize	8.701	8.684	0.14
9	BODIndep	0.380	0.392	-2.51
10	Block	0.602	0.767	-7.08*
11	Duality	0.384	0.272	4.67*
12	Big4	0.787	0.733	2.43
	Other characteristics			
13	AQ	0.086	0.106	-3.54*
14	DRAC	0.667	0.702	-0.65

Table 3: Descriptive statistics and correlation matrix (Cont'd)

Panel C: Pairwise correlation for variables in the audit committee determinant models

	FAM_OWN	%FAM_BOD	ACIndep	ACExpert	ACMeet	BODSize	BODIndep
FAM_OWN	1.0000						
%FAM_BOD	0.7782*	1.0000					
ACIndep	-0.1624*	-0.1106*	1.0000				
ACExpert	-0.1338*	-0.2055*	-0.0143	1.0000			
ACMeet	-0.0411	-0.0431	-0.1479*	0.0236	1.0000		
BODSize	0.0042	-0.0636*	-0.2673*	0.1444*	0.1302*	1.0000	
BODIndep	-0.0370	-0.1066*	-0.0590*	0.0529*	0.0630*	0.3303*	1.0000
MB	-0.0314	-0.0074	0.0080	0.0357	0.0253	-0.0055	-0.0050
Losses	-0.1536*	-0.1095*	0.1272*	0.0466	-0.0776*	-0.2018*	-0.0731*
DA	-0.0409	-0.0537*	-0.0265	0.0533*	-0.0313	-0.0133	0.0167
Block	-0.2272*	-0.2141*	0.0336	0.2114*	0.0516	0.1180*	0.0505*
FirmSize	-0.0683*	-0.1234*	-0.1925*	0.1352*	0.1554*	0.4580*	0.3001*
LitigationRisk	-0.0609*	0.0197	-0.0357	0.0507	0.0154	-0.0810*	0.0296
ACSize	0.1101*	-0.0254	0.5699*	-0.0177	0.1646*	0.2353*	0.2744*
Segment	-0.1048*	-0.1183*	-0.0541*	0.0364	-0.0195	0.1705*	0.1304*
BODMeet	-0.1615*	-0.1365*	0.1217*	0.0210	0.0574*	-0.0937*	-0.0466

	MB	Losses	DA	Block	FirmSize	LitigationRisk	ACSize
MB	1.0000						
Losses	0.0400	1.0000					
DA	-0.0857*	0.1733*	1.0000				
Block	0.0433	-0.0194	-0.0212	1.0000			
FirmSize	-0.0014	-0.2675*	-0.1051*	0.1662*	1.0000		
LitigationRisk	-0.0038	0.0383	-0.0808*	0.0208	0.0028	1.0000	
ACSize	-0.0043	-0.1230*	-0.0442	-0.0531*	0.1677*	-0.0129	1.0000
Segment	-0.0076	-0.0189	0.0790*	0.0499	0.1772*	-0.0782*	0.0225
BODMeet	-0.0170	0.2291*	-0.0115	0.0239	-0.0620*	0.0666*	-0.0807*

	Segment	BODMeet
Segment	1.0000	
BODMeet	0.0510	1.0000

Table 3: Descriptive statistics and correlation matrix (Cont'd)

Panel D: Pairwise correlation for variables in the accruals quality models

	FAM_OWN	%FAM_BOD	ACIndep	ACExpert	ACMeet	AQ	FirmSize
FAM_OWN	1.0000						
%FAM_BOD	0.7782*	1.0000					
ACIndep	-0.1624*	-0.1106*	1.0000				
ACExpert	-0.1338*	-0.2055*	-0.0143	1.0000			
ACMeet	-0.0411	-0.0431	-0.1479*	0.0236	1.0000		
AQ	-0.1066*	-0.1045*	0.1075*	-0.0543*	-0.0401	1.0000	
FirmSize	-0.0683*	-0.1234*	-0.1925*	0.1352*	0.1554*	-0.1172*	1.0000
σ(CFO)	-0.1734*	-0.1833*	0.1613*	0.0236	-0.0734*	0.1944*	-0.2196*
σ(Sales)	-0.1306*	-0.1264*	0.1200*	-0.0359	-0.0015	0.0698*	-0.1611*
NegEarn	-0.2228*	-0.1546*	0.1788*	0.0685*	-0.1760*	0.2776*	-0.3854*
OpCyc	-0.0183	-0.0227	0.0823*	0.0493	-0.0039	0.0748*	-0.0959*
MB	-0.0314	-0.0074	0.0080	0.0357	0.0253	0.0514*	-0.0014
DA	-0.0409	-0.0537*	0.0265	-0.0533*	-0.0313	0.0512*	-0.1051*
Duality	0.1311*	0.0997*	0.0569*	-0.0735*	-0.0073	0.0169	-0.1317*
ROA	0.1042*	0.0569*	-0.0483	-0.0185	0.0778*	-0.2078*	0.1991*
Big4	0.0724*	0.0400	-0.1662*	0.0564*	0.0443	-0.1386*	0.2358*
DRAC	-0.0441	0.0553	0.2635*	-0.0652*	-0.1077*	0.1037*	-0.2431*

	σ(CFO)	σ(Sales)	NegEarn	OpCyc	MB	DA	Duality
σ(CFO)	1.0000						
σ(Sales)	0.4615*	1.0000					
NegEarn	0.3185*	0.2459*	1.0000				
OpCyc	0.0224	-0.1850*	0.1643*	1.0000			
MB	0.0788*	0.0131	0.0502*	0.0301	1.0000		
DA	0.1226*	0.1070*	0.1683*	0.0444	-0.0857*	1.0000	
Duality	0.0920*	0.0085	-0.0189	-0.0063	0.0291	0.0225	1.0000
ROA	-0.1945*	-0.0786*	-0.3246*	-0.0971*	-0.0140	-0.2137*	-0.0321
Big4	-0.2224*	-0.1594*	-0.2233*	-0.1329*	-0.0456	-0.0451	-0.0253
DRAC	0.0304	0.0510	0.1067*	0.0801*	0.0169	0.0003	0.0059

	ROA	Big4	DRAC
ROA	1.0000		
Big4	0.1586*	1.0000	
DRAC	-0.0421	-0.1115*	1.0000

Panel A of the above table provides descriptive statistics of the variables used in the analyses. Panel B provides difference of means tests between family and non-family firms, and indicates significance at the one percent (*) level. Panel C and D shows the pairwise correlation for variables in the audit committee determinant models and accruals quality models respectively. * indicates correlation is significant at the 0.05 level (two-tailed).

Table 4: Regression analysis of audit committee independence and family firms.

Variable	Model 1	Model 2
FAM=	FAM_OWN	%FAM_BOD
FAM	-0.069***	-0.074***
	-5.44	-4.40
BODSize	-0.084***	-0.089***
	-3.26	-3.45
BODIndep	0.077	0.071
	1.29	1.19
MB	-0.000	0.000
	-0.00	0.31
Losses	0.009	0.012
	1.11	1.49
DA	-0.002	-0.003
	-0.15	-0.19
Block	0.013*	0.015**
	1.80	2.19
FirmSize	-0.009***	-0.009***
	-3.56	-3.57
Yr2	-0.001	-0.000
	-0.06	-0.01
Yr3	0.005	0.006
	0.59	0.66
Yr4	0.008	0.009
	0.83	1.01
Intercept	1.140***	1.148***
	15.76	15.84
Adjusted R-square	0.106	0.099
F	17.563	16.526
N	1478	1478

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$ACIndep_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Losses_{it} + \beta_6 DA_{it} + \beta_7 Block_{it} + \beta_8 FirmSize_{it} + \beta_9 Yr2_t + \beta_{10} Yr3_t + \beta_{11} Yr4_t + \mu_{it}$$

Model 1 shows the regression results of using percentage of common stock owned by family members as proxy for family firm. Model 2 shows the regression results of using percentage of directors from the same family on the board of directors as proxy for family firm.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 5: Regression analysis of audit committee financial expertise and family firms.

Variable FAM=	Model 1 FAM_OWN	Model 2 %FAM_BOD
FAM	-0.088***	-0.209***
	-3.49	-6.13
BODSize	0.147***	0.130**
	2.73	2.42
BODIndep	0.168	0.120
	1.36	0.96
MB	0.000	0.000
	1.26	1.43
Block	0.097***	0.090***
	6.50	6.17
FirmSize	0.010**	0.009*
	2.20	1.93
LitigationRisk	-0.035**	-0.030*
	-2.22	-1.89
ACSize	-0.076*	-0.080*
	-1.77	-1.86
Segment	-0.002	-0.003
	-0.48	-0.66
Yr2	0.008	0.008
	0.39	0.41
Yr3	0.012	0.013
	0.61	0.66
Yr4	-0.001	0.002
	-0.03	0.09
Intercept	0.266**	0.357***
	1.97	2.63
Adjusted R-square	0.066	0.082
F	11.188	13.838
N	1466	1466

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$ACExpert_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Block_{it} + \beta_6 FirmSize_{it} + \beta_7 LitigationRisk_{it} + \beta_8 ACSize_{it} + \beta_9 Segment_{it} + \beta_{10} Yr2_t + \beta_{11} Yr3_t + \beta_{12} Yr4_t + \mu_{it}$$

Model 1 shows the regression results of using percentage of common stock owned by family members as proxy for family firm. Model 2 shows the regression results of using percentage of directors from the same family on the board of directors as proxy for family firm.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 6: Regression analysis of audit committee diligence and family firms.

Variable FAM=	Model 1 FAM_OWN	Model 2 %FAM_BOD
FAM	-0.047	-0.028
	-1.34	-0.58
BODSize	0.002	0.003
	0.03	0.05
BODIndep	-0.201	-0.192
	-1.05	-1.01
MB	-0.000	-0.000
	-1.42	-1.32
Losses	-0.032	-0.029
	-1.11	-1.00
DA	0.010	0.010
	0.20	0.20
Block	0.004	0.008
	0.20	0.36
FirmSize	0.018***	0.018***
	2.69	2.72
LitigationRisk	0.009	0.011
	0.41	0.48
ACSize	0.337***	0.329***
	4.77	4.68
ACExpert	-0.003	-0.003
	-0.09	-0.08
BODMeet	0.049***	0.050***
	2.68	2.75
Yr2	-0.054	-0.051
	-0.86	-0.81
Yr3	-0.013	-0.010
	-0.21	-0.16
Yr4	-0.050	-0.046
	-0.80	-0.74
Intercept	0.451**	0.437*
	2.01	1.94
Adjusted R-square	0.047	0.046
F	5.079	4.947
N	1172	1172

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$ACMeet_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 BODSize_{it} + \beta_3 BODIndep_{it} + \beta_4 MB_{it} + \beta_5 Losses_{it} + \beta_6 DA_{it} + \beta_7 Block_{it} + \beta_8 FirmSize_{it} + \beta_9 LitigationRisk_{it} + \beta_{10} ACSize_{it} + \beta_{11} ACExpert_{it} + \beta_{12} BODMeet_{it} + \beta_{13} Yr2_t + \beta_{14} Yr3_t + \beta_{15} Yr4_t + \mu_{it}$$

Model 1 shows the regression results of using percentage of common stock owned by family members as proxy for family firm. Model 2 shows the regression results of using percentage of directors from the same family on the board of directors as proxy for family firm.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 7: Regression analysis of earnings management and audit committee characteristics.

Variable	Model 1
ACIndep	0.044**
	2.32
ACExpert	-0.034**
	-2.43
ACMeet	0.006
	0.76
FirmSize	0.004**
	1.98
σ(CFO)	0.160*
	1.86
σ(Sales)	-0.019*
	-1.82
NegEarn	0.084***
	6.11
OpCyc	0.001
	0.42
MB	0.000
	1.54
DA	-0.005
	-0.24
Duality	0.001
	0.16
ROA	-0.016
	-0.76
Big4	-0.016*
	-1.89
Yr2	0.000
	0.01
Yr3	-0.008
	-0.64
Yr4	-0.017
	-1.40
Intercept	0.031
	1.07
Adjusted R-square	0.092
F	6.609
N	1196

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$AQ_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 \sigma(CFO_{it}) + \beta_6 \sigma(Sales_{it}) + \beta_7 OpCycle_{it} + \beta_8 NegEarn_{it} + \beta_9 MB_{it} + \beta_{10} DA_{it} + \beta_{11} Duality_{it} + \beta_{12} ROA_{it} + \beta_{13} Big4_{it} + \beta_{14} Yr2_t + \beta_{15} Yr3_t + \beta_{16} Yr4_t + \mu_{it}$

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 8: Regression analysis of earnings management, audit committee characteristics and family firms.

Variable	Model 1	Model 2
FAM=	FAM_OWN	%FAM_BOD
ACIndep	0.048*	0.029
	1.77	1.02
ACExpert	-0.024	-0.024
	-1.62	-1.55
ACMeet	0.021**	0.013
	2.08	1.26
FAM	0.144**	0.037
	2.21	0.47
FAM*ACIndep	-0.044	0.031
	-0.74	0.41
FAM*ACExpert	-0.050	-0.072
	-1.26	-1.44
FAM*ACMeet	-0.088***	-0.052
	-3.26	-1.39
FirmSize	0.003*	0.003
	1.73	1.50
σ(CFO)	0.158*	0.149*
	1.83	1.73
σ(Sales)	-0.020*	-0.020*
	-1.82	-1.83
NegEarn	0.080***	0.079***
	5.90	5.77
OpCyc	0.001	0.002
	0.38	0.55
MB	0. 000	0. 000
	1.51	1.55
DA	-0.003	-0.004
	-0.17	-0.20
Duality	0.004	0.004
	0.60	0.56
ROA	-0.017	-0.015
	-0.82	-0.74
Big4	-0.018**	-0.018**
	-2.11	-2.13
Yr2	0.001	0.001
	0.05	0.07
Yr3	-0.007	-0.007
	-0.58	-0.57
Yr4	-0.016	-0.016
	-1.35	-1.30
Intercept	0.013	0.042
	0.36	1.18
Adjusted R-square	0.095	0.094
F	6.036	5.830
N	1196	1196

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 ACIndep_{it} + \beta_3 ACExpert_{it} + \beta_4 ACMeet_{it} + \beta_5 FAM_{it}*ACIndep_{it} + \beta_6 FAM_{it}*ACExpert_{it} + \beta_7 FAM_{it}*ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 \sigma(CFO_{it}) + \beta_{10} \sigma(Sales_{it}) + \beta_{11} OpCycle_{it} + \beta_{12} NegEarn_{it} + \beta_{13} MB_{it} + \beta_{14} DA_{it} + \beta_{15} Duality_{it} + \beta_{16} ROA_{it} + \beta_{17} Big4_{it} + \beta_{18} Yr2_t + \beta_{19} Yr3_t + \beta_{20} Yr4_t + \mu_{it}$$

Model 1 shows the regression results of using percentage of common stock owned by family members as proxy for family firm. Model 2 shows the regression results of using percentage of directors from the same family on the board of directors as proxy for family firm.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 9: Regression analysis of earnings management, audit committee characteristics and committee restructuring.

Variable	Model 1
ACIndep	0.041
	1.34
ACExpert	-0.025*
	-1.65
ACMeet	0.022*
	1.79
DRAC	0.033
	0.71
DRAC*ACIndep	-0.010
	-0.24
DRAC*ACExpert	-0.002
	-0.09
DRAC*ACMeet	-0.002
	-0.11
FirmSize	0.006**
	2.38
σ(CFO)	0.183*
	1.83
σ(Sales)	-0.029
	-1.56
NegEarn	0.076***
	5.49
OpCyc	-0.001
	-0.17
MB	0.000*
	1.68
DA	-0.015
	-0.86
Duality	0.002
	0.28
ROA	-0.007
	-0.35
Big4	-0.024**
	-2.41
Yr2	-0.001
	-0.05
Yr3	-0.013
	-0.98
Yr4	-0.025*
	-1.92
Intercept	0.007
	0.17
Adjusted R-square	0.086
F	5.002
N	923

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 DRAC_i + \beta_2 ACIndep_{it} + \beta_3 ACExpert_{it} + \beta_4 ACMeet_{it} + \beta_5 DRAC_i * ACIndep_{it} + \beta_6 DRAC_i * ACExpert_{it} + \beta_7 DRAC_i * ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 \sigma(CFO_{it}) + \beta_{10} \sigma(Sales_{it}) + \beta_{11} OpCycle_{it} + \beta_{12} NegEarn_{it} + \beta_{13} MB_{it} + \beta_{14} DA_{it} + \beta_{15} Duality_{it} + \beta_{16} ROA_{it} + \beta_{17} Big4_{it} + \beta_{18} Yr2_t + \beta_{19} Yr3_t + \beta_{20} Yr4_t + \mu_{it}$$

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 10: Regression analysis of earnings management, audit committee characteristics, committee restructuring and family firms.

Variable FAM=	Model 1 FAM_OWN	Model 2 %FAM_BOD
ACIndep	0.029	0.026
	0.73	0.59
ACExpert	-0.042*	-0.054**
	-1.91	-2.28
ACMeet	0.036**	0.027*
	2.41	1.67
FAM	0.012	-0.118
	0.09	-0.65
DRAC	0.007	-0.000
	0.10	-0.01
FAM*DRAC	0.136	0.151
	0.76	0.65
FAM*ACIndep	0.011	0.030
	0.10	0.20
FAM*ACExpert	0.076	0.157*
	1.43	1.81
FAM*ACMeet	-0.075	-0.043
	-1.54	-0.52
DRAC*ACIndep	-0.006	-0.001
	-0.11	-0.01
DRAC*ACExpert	0.026	0.036
	0.80	1.05
DRAC*ACMeet	0.007	-0.001
	0.31	-0.06
FAM*DRAC*ACIndep	0.022	0.003
	0.13	0.02
FAM*DRAC*ACExpert	-0.153*	-0.238**
	-1.69	-1.97
FAM*DRAC*ACMeet	-0.097	-0.011
	-1.37	-0.10
FirmSize	0.005**	0.005**
	2.18	2.07
σ(CFO)	0.193*	0.184*
	1.91	1.82
σ(Sales)	-0.030	-0.029
	-1.60	-1.58
NegEarn	0.071***	0.071***
	5.32	5.08
OpCyc	-0.001	0.000
	-0.17	0.02
MB	0.000	0.000*
	1.62	1.72
DA	-0.014	-0.015
	-0.81	-0.86
Duality	0.007	0.004
	0.89	0.57
ROA	-0.005	-0.003
	-0.25	-0.18
Big4	-0.026***	-0.025**
	-2.66	-2.45
Yr2	-0.000	-0.000
	-0.03	-0.02
Yr3	-0.013	-0.012
	-0.92	-0.92
Yr4	-0.025*	-0.024*
	-1.90	-1.86
Intercept	0.020	0.042
	0.40	0.77
Adjusted R-square	0.091	0.083
F	4.514	4.775
N	923	923

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 DRAC_i + \beta_3 FAM*DRAC + \beta_4 ACIndep_{it} + \beta_5 ACExpert_{it} + \beta_6 ACMeet_{it} + \beta_7 FAM_{it}*ACIndep_{it} + \beta_8 FAM_{it}*ACExpert_{it} + \beta_9 FAM_{it}*ACMeet_{it} + \beta_{10} DRAC_i*ACIndep_{it} + \beta_{11} DRAC_i*ACExpert_{it} + \beta_{12} DRAC_i*ACMeet_{it} + \beta_{13} FAM_{it}*DRAC_i*ACIndep_{it} + \beta_{14} FAM_{it}*DRAC_i*ACExpert_{it} + \beta_{15} FAM_{it}*DRAC_i*ACMeet_{it} + \text{Control variables} + \mu_{it}$$

Model 1 shows the regression results of using percentage of common stock owned by family members as proxy for family firm. Model 2 shows the regression results of using percentage of directors from the same family on the board of directors as proxy for family firm.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 11: Regression analysis of earnings management and audit committee characteristics (Accounting financial experts vs. non-accounting financial experts).

Variable ACExpert=	Model 1 AFE	Model 2 NAFE
ACIndep	0.045**	0.043**
	2.35	2.29
ACExpert	-0.034**	-0.012
	-2.01	-1.13
ACMeet	0.007	0.006
	0.83	0.67
FirmSize	0.002	0.003
	1.20	1.64
σ(CFO)	0.148*	0.150*
	1.70	1.72
σ(Sales)	-0.019*	-0.018*
	-1.77	-1.69
NegEarn	0.082***	0.081***
	6.04	6.01
OpCyc	0.000	0.001
	0.14	0.43
MB	0.000	0.000
	1.48	1.56
DA	-0.005	-0.003
	-0.27	-0.14
Duality	0.002	0.001
	0.36	0.19
ROA	-0.018	-0.016
	-0.88	-0.75
Big4	-0.017**	-0.016*
	-2.07	-1.92
Yr2	0.002	0.000
	0.13	0.00
Yr3	-0.006	-0.008
	-0.51	-0.65
Yr4	-0.014	-0.017
	-1.19	-1.38
Intercept	0.033	0.018
	1.12	0.63
Adjusted R-square	0.090	0.086
F	6.523	6.515
N	1196	1196

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 \sigma(CFO_{it}) + \beta_6 \sigma(Sales_{it}) + \beta_7 OpCycle_{it} + \beta_8 NegEarn_{it} + \beta_9 MB_{it} + \beta_{10} DA_{it} + \beta_{11} Duality_{it} + \beta_{12} ROA_{it} + \beta_{13} Big4_{it} + \beta_{14} Yr2_t + \beta_{15} Yr3_t + \beta_{16} Yr4_t + \mu_{it}$$

Model 1 shows the regression results of using the percentage of accounting financial experts as proxy for ACExpert. Model 2 shows the regression results of using the percentage of non-accounting financial experts as proxy for ACExpert.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
AFE=the percentage of accounting financial experts on the audit committee.
NAFE=the percentage of non-accounting financial experts on the audit committee.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 12: Regression analysis of earnings management and audit committee characteristics and committee restructuring and family firms (Accounting financial experts vs. non-accounting financial experts).

Variable	Model 1	Model 2	Model 3	Model 4
FAM=	FAM_OWNAFE	%FAM_BODAFE	FAM_OWNNAFE	%FAM_BODNAFE
ACExpert=				
ACIndep	0.038	0.030	0.036	0.028
	0.97	0.66	0.89	0.61
ACExpert	-0.040**	-0.042**	-0.004	-0.010
	-2.26	-2.23	-0.22	-0.55
ACMeet	0.035**	0.025	0.035**	0.026
	2.26	1.53	2.31	1.60
FAM	0.044	-0.090	0.079	0.002
	0.35	-0.54	0.62	0.01
DRAC	0.051	0.058	0.012	-0.003
	0.91	0.99	0.20	-0.05
FAM*DRAC	0.078	0.025	0.073	0.078
	0.46	0.11	0.42	0.36
FAM*ACIndep	-0.015	0.028	0.004	0.033
	-0.13	0.18	0.03	0.22
FAM*ACExpert	0.147	0.239	-0.019	-0.005
	1.63	1.60	-0.41	-0.07
FAM*ACMeet	-0.081	-0.037	-0.076	-0.053
	-1.56	-0.46	-1.54	-0.64
DRAC*ACIndep	-0.020	-0.016	-0.006	0.003
	-0.35	-0.25	-0.10	0.04
DRAC*ACExpert	-0.040	-0.069*	0.028	0.054**
	-1.15	-1.89	1.10	2.07
DRAC*ACMeet	0.012	0.008	0.011	0.008
	0.52	0.36	0.51	0.33
FAM*DRAC*ACIndep	0.026	0.023	-0.015	-0.024
	0.16	0.11	-0.09	-0.12
FAM*DRAC*ACExpert	-0.180	-0.097	-0.018	-0.165*
	-1.51	-0.55	-0.24	-1.70
FAM*DRAC*ACMeet	-0.085	-0.039	-0.093	-0.026
	-1.19	-0.37	-1.31	-0.24
FirmSize	0.004*	0.004*	0.005**	0.005*
	1.95	1.85	2.06	1.90
σ(CFO)	0.177*	0.174*	0.175*	0.174*
	1.74	1.70	1.71	1.71
σ(Sales)	-0.028	-0.028	-0.027	-0.027
	-1.50	-1.52	-1.43	-1.44
NegEarn	0.070***	0.070***	0.067***	0.064***
	5.26	5.10	5.00	4.53
OpCyc	-0.002	-0.001	-0.001	0.000
	-0.59	-0.38	-0.21	0.11
MB	0.000	0.000	0.000	0.000
	1.51	1.57	1.54	1.61
DA	-0.019	-0.022	-0.014	-0.015
	-1.07	-1.24	-0.80	-0.86
Duality	0.008	0.006	0.007	0.005
	1.09	0.72	0.96	0.70
ROA	-0.007	-0.007	-0.007	-0.007
	-0.39	-0.37	-0.39	-0.34
Big4	-0.029*	-0.028*	-0.028***	-0.028***
	-2.93	-2.74	-2.79	-2.69
Yr2	0.001	0.001	0.001	0.000
	0.09	0.06	0.04	-0.02
Yr3	-0.011	-0.011	-0.012	-0.013
	-0.84	-0.85	-0.89	-0.94
Yr4	-0.022*	-0.022*	-0.023*	-0.023*
	-1.76	-1.74	-1.77	-1.77
Intercept	0.011	0.030	-0.008	0.012
	0.25	0.59	-0.18	0.23
Adjusted R-square	0.103	0.096	0.086	0.082
F	4.235	4.488	4.328	4.707
N	923	923	923	923

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 FAM_{it} + \beta_2 DRAC_i + \beta_3 FAM*DRAC + \beta_4 ACIndep_{it} + \beta_5 ACExpert_{it} + \beta_6 ACMeet_{it} + \beta_7 FAM_{it}*ACIndep_{it} + \beta_8 FAM_{it}*ACExpert_{it} + \beta_9 FAM_{it}*ACMeet_{it} + \beta_{10} DRAC_i*ACIndep_{it} + \beta_{11} DRAC_i*ACExpert_{it} + \beta_{12} DRAC_i*ACMeet_{it} + \beta_{13} FAM_{it}*DRAC_i*ACIndep_{it} + \beta_{14} FAM_{it}*DRAC_i*ACExpert_{it} + \beta_{15} FAM_{it}*DRAC_i*ACMeet_{it} + \text{Control variables} + \mu_{it}$$

Model 1 and 2 shows the regression results of using the percentage of accounting financial experts as proxy for ACExpert. Percentage of family ownership and percentage of family members on board of directors are used as proxy for family firms in model 1 and 2 respectively. Model 3 and 4 shows the regression results of using the percentage of non-accounting financial experts as proxy for ACExpert. Percentage of family ownership and percentage of family members on board of directors are used as proxy for family firms in model 3 and 4 respectively.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
AFE=the percentage of accounting financial experts on the audit committee.
NAFE=the percentage of non-accounting financial experts on the audit committee.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 13: Regression analysis of earnings management and audit committee characteristics of family firms partitioned by board independence.

Variable	Model 1 All family firms	Model 2 Low board independence	Model 3 High board independence
ACIndep	0.052*	0.027	0.064
	1.92	0.78	1.51
ACExpert	-0.057**	-0.059*	-0.011
	-2.30	-1.88	-0.23
ACMeet	-0.036***	-0.046**	-0.068**
	-2.62	-2.45	-2.14
FirmSize	0.001	-0.004	0.010**
	0.42	-0.79	2.00
σ(CFO)	0.024	0.197	-0.131
	0.14	0.88	-0.59
σ(Sales)	0.034	0.168**	0.028
	1.08	2.48	0.71
NegEarn	0.011	0.052	0.003
	0.35	1.08	0.11
OpCyc	0.000	-0.005	0.005
	-0.11	-0.97	1.27
MB	0.001	0.002	-0.003
	0.43	0.54	-1.46
DA	0.008	0.057	-0.065*
	0.20	0.88	-1.95
Duality	-0.001	0.014	-0.009
	-0.13	1.05	-0.75
ROA	-0.004	0.020	-0.073
	-0.08	0.24	-1.45
Big4	-0.007	0.006	-0.023
	-0.46	0.32	-1.05
Yr2	0.013	0.013	-0.002
	1.00	0.64	-0.16
Yr3	0.021	0.017	0.020
	1.42	0.80	1.09
Yr4	0.011	0.002	0.013
	0.77	0.08	0.76
Intercept	0.077*	0.124**	0.021
	1.89	2.11	0.38
Adjusted	0.016	0.082	0.015
F	1.577	1.943	1.520
N	505	313	192

The table presents the estimation results of the following pooled cross-sectional OLS regression:

$$AQ_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 \sigma(CFO_{it}) + \beta_6 \sigma(Sales_{it}) + \beta_7 OpCycle_{it} + \beta_8 NegEarn_{it} + \beta_9 MB_{it} + \beta_{10} DA_{it} + \beta_{11} Duality_{it} + \beta_{12} ROA_{it} + \beta_{13} Big4_{it} + \beta_{14} Yr2_t + \beta_{15} Yr3_t + \beta_{16} Yr4_t + \mu_{it}$$

Model 1 shows the regression results for family firms (proxied by percentage of family ownership). The family firms with board independence less than or equal to (greater than) the median is classified as low (high) board independence. Model 2 and 3 show the regression results for the subsample of family firms with low and high board independence respectively.

Legend: Coefficient / t-Stat.
The reported t-statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
A cut-off point of 20% family ownership is used to classify family firms.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.

Table 14: Logistic regression on meeting earnings benchmark of small positive earnings.

Variable FAM=	Model 1	Model 2 FAM_OWN	Model 3 %FAM_BOD
ACIndep	-0.271	0.107	-0.824
	-0.37	0.09	-0.88
ACExpert	-0.686**	-0.933	-0.809*
	-2.01	-1.60	-1.8
ACMeet	-0.248	-0.629	-0.225
	-0.84	-1.22	-0.68
FAM		-0.758	-2.407
		-0.28	-0.72
FAM*ACIndep		-1.246	1.974
		-0.48	0.65
FAM*ACExpert		0.710	0.103
		0.54	0.06
FAM*ACMeet		1.111	-0.189
		1.01	-0.13
FirmSize	-0.318***	-0.321***	-0.329***
	-4.96	-5.27	-5.37
MB	-0.002	-0.003	-0.002
	-0.36	-1.33	-0.96
Big4	0.800***	0.846***	0.827***
	3.37	3.48	3.31
Block	0.190	0.130	0.132
	0.94	0.63	0.65
LitigationRisk	0.034	0.025	0.042
	0.15	0.11	0.19
Yr2	-0.094	-0.099	-0.084
	-0.25	-0.26	-0.22
Yr3	0.152	0.155	0.171
	0.40	0.41	0.46
Yr4	0.130	0.131	0.151
	0.34	0.35	0.40
Intercept	0.150	0.484	0.925
	0.16	0.34	0.81
Pseudo R-square	0.047	0.051	0.050
N	1240	1240	1240

Model 1 presents the estimation results of the following logistic regression:

$$SMALL\_EARN_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FirmSize_{it} + \beta_5 MB_{it} + \beta_6 Big4_{it} + \beta_7 Block_{it} + \beta_8 LitigationRisk_{it} + \beta_9 Yr2_t + \beta_{10} Yr3_t + \beta_{11} Yr4_t + \mu_{it}$$

Model 2 and 3 presents the estimation results of the following logistic regression:

$$SMALL\_EARN_{it} = \alpha + \beta_1 ACIndep_{it} + \beta_2 ACExpert_{it} + \beta_3 ACMeet_{it} + \beta_4 FAM_{it} + \beta_5 FAM_{it} * ACIndep_{it} + \beta_6 FAM_{it} * ACExpert_{it} + \beta_7 FAM_{it} * ACMeet_{it} + \beta_8 FirmSize_{it} + \beta_9 MB_{it} + \beta_{10} Big4_{it} + \beta_{11} Block_{it} + \beta_{12} LitigationRisk_{it} + \beta_{13} Yr2_t + \beta_{14} Yr3_t + \beta_{15} Yr4_t + \mu_{it}$$

Legend: Coefficient / Chi-square stat.
The reported Chi-square statistics are corrected for serial correlation with the Huber White Sandwich Estimator for variance.
SMALL_EARN=1 when the current year's net income, scaled by total assets, falls in the interval [0.00, 0.02], and 0 otherwise.
See Table 2 for other variable definitions.
* Statistical significance at the 0.1 level, two-tailed test.
** Statistical significance at the 0.05 level, two-tailed test.
*** Statistical significance at the 0.01 level, two-tailed test.