

# **Audit Committee Characteristics and Financial Reporting Comparability**

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## **ABSTRACT**

Financial reporting comparability is one of the key qualitative characteristics that allows accounting information users to identify and understand similarities and differences in the financial performance of two firms. While prior studies mainly focus on the role of accounting standards in the production of comparability, the role of economic agents and institutional incentives has been largely overlooked. To fill this gap, this study argues that a firm's audit committee, as an economic agent within the firm, is important in shaping financial reporting comparability because the audit committee oversees the financial reporting and disclosure process, and monitors the choices of accounting policies and principles. Given the oversight role of audit committees in the implementation and interpretation of accounting standards in financial reporting, the comparability of accounting information is expected to be determined by audit committee characteristics that capture its effectiveness. Consistent with this prediction, this study finds that a firm's financial information tends to be more comparable to its industry peers when the firm's audit committee is larger in size and has more members with financial and accounting expertise. The results also suggest that the presence of Big 4 auditors, and independent and larger boards of directors, moderate the positive association between audit committee characteristics and financial reporting comparability. The results enhance our understanding of the interaction between the audit committee, accounting standards and financial reporting outcomes.

## STATEMENT

I certify that the work in this thesis entitled “**Audit Committee Characteristics and Financial Reporting Comparability**” has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information sources and literature used are indicated in the thesis.

A handwritten signature in dark ink, appearing to read 'Zhuoan Feng', with a long horizontal stroke extending to the right.

Zhuoan Feng (42061970)

8 October, 2014

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Overview**

Financial reporting comparability is one of the key qualitative characteristics that allows accounting information users to identify and understand similarities and differences in the financial performance of two firms.<sup>1</sup> In particular, the International Accounting Standards Board (IASB, 2010) states that comparability, which has been recently added to the revised Conceptual Framework, can enhance the usefulness and faithfulness of accounting information. Further, the Financial Accounting Standards Board (FASB) states that ‘investing and lending decisions essentially involve evaluations of alternative opportunities, and they cannot be made rationally if comparative information is not available’ (FASB 1980, p.40). In addition, the importance of comparability in financial reporting, and its contribution to decision making, are also emphasised in many accounting textbooks (Phillips et al. 2013).

Financial reporting comparability is important for the capital market and accounting information users because it enhances their confidence in gauging a firm’s financial performance. In addition, comparability is considered a valuable attribute by financial statement users because it can facilitate international transactions and minimise exchange costs (Emenyonu and Gray 1996; Choi et al. 1999; Bradshaw et al. 2009; Olita 2014). It also has implications for cross-border financial analysis and investment, as well as for market liquidity (Botosan 1997; Bradshaw et al. 2004; Hail et al. 2010). Therefore, a higher degree of financial reporting comparability is beneficial for globalisation.

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<sup>1</sup> Throughout this study, I use the terms financial reporting comparability, reporting comparability, financial statement reporting comparability and accounting comparability interchangeably.



Despite the important role of comparability in financial reporting, there is very limited research on accounting comparability, mainly due to the lack of a valid empirical measure. De Franco et al. (2011, DKV hereafter) are the first to develop an empirical measure of financial statement comparability by measuring earnings covariation, and to use this empirical measure to examine the economic benefits of financial statement comparability.<sup>2</sup> They find that higher financial reporting comparability leads to better earnings forecast accuracy, lower cost of information acquisition, and better quality and quantity of financial information.

Follow-up studies primarily focus on the role of accounting standards in the production of financial reporting comparability, and consider accounting standards as the main determinants of reporting comparability (Barth et al. 2012; Yip and Young 2012). They typically investigate how the adoption of International Financial Reporting Standards (IFRS) affects financial statement comparability across countries or across firms within a single country, and suggest that the adoption of IFRS leads to higher accounting comparability and associated economic benefits. Despite the essential role played by accounting standards identified in previous research, several studies argue that accounting standards cannot fully determine financial reporting outcomes such as comparability (Ball et al. 2003; Leuz et al. 2003). Recent research therefore has begun to focus on other factors beyond accounting standards that affect financial reporting outcomes, such as the incentives of preparers and auditors, enforcement mechanisms, ownership structure, economic agents and institutional environments, based on the notion that these factors directly affect the implementation and interpretation of accounting standards (Ball et al. 2003; Holthausen 2003; Leuz et al. 2003; Holthausen 2009). Along this line, Francis et al. (2014) are among the first to test the role of

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<sup>2</sup> Earnings covariation is defined as earnings for two firms in the same industry that covary over time (De Franco et al. 2011). De Franco et al. (2011) use reported earnings as the indicator of comparability because earnings are important summary income statement measures for financial statement comparability.

economic agents (e.g., auditors) in affecting reporting comparability. They find that consistent and unique auditor style in each prestige auditor increases comparability in financial reporting among their own clients. However, the role of factors other than accounting standards and auditors in shaping financial reporting comparability remains largely unexplored.

To fill this gap, this study considers the audit committee within a firm as an economic agent within the firm, which is ‘established by and amongst the board of directors of an issuer for the purpose of overseeing the accounting and financial reporting processes of the issuer and audits of the financial statements of the issuer’ (SOX 2002, Section 2). As a key corporate governance mechanism, the audit committee oversees the financial reporting and disclosure process, and monitors the choices of accounting policies and principles (Chen and Li 2013). Consistent with this notion, previous studies suggest that companies with audit committees are less likely to have earnings management (Dechow et al. 1996; Koh et al. 2007; Baxter and Cotter 2009; Lin and Hwang 2010), and have more voluntary information disclosure (Karamanou and Vafeas 2005) and more reliable and conservative financial information (McMullen 1996).

It is important to note that the presence of an audit committee does not necessarily indicate an efficient audit committee (Kalbers and Fogarty 1993; Menon and Williams 1994). In fact, the effectiveness of audit committees in overseeing the financial reporting process is found to be largely determined by several audit committee characteristics, including audit committee independence (Klein 2002; Bronson et al. 2009), financial and accounting expertise (Carcello and Neal 2003; Abbott et al. 2004), committee size and diligence (Zaman et al. 2011). However, to my knowledge, no study examines the role of the audit committee and its characteristics in shaping the extent of financial statement comparability.

To fill this gap, this study examines the role of audit committees in determining the degree of financial statement comparability. This study considers financial reporting comparability as a unique and important aspect of financial reporting quality, as it enhances the usefulness and faithfulness of accounting information. Given the oversight and monitoring role of audit committees in implementing and interpreting accounting standards in financial reporting, the comparability of accounting information is expected to be determined not only by external factors, such as accounting standards and auditors, but also by the characteristics of the audit committee within the firm.

This study focuses on two audit committee characteristics: audit committee size, and audit committee financial and accounting expertise. These characteristics largely determine the effectiveness of the audit committee in strengthening financial reporting quality (Abbott et al. 2004; Zaman et al. 2011; Cohen et al. 2014). A large audit committee is expected to be more effective since more committee members will bring greater resources to the monitoring process and a wider knowledge base on which to draw (Vafeas 2003; Raghunandan and Rama 2007; Sharma et al. 2009). Moreover, a larger audit committee is more likely to have greater organisational status and power within the organisation, and thus be more willing to question and confront management for misreporting or inappropriate behaviour (D'Aveni 1990; Badolato et al. 2014). In addition, financial and accounting expertise in the audit committee provides it with an effective means of monitoring management's financial reporting practices (Zhang et al. 2007; Krishnan and Visvanathan 2008). The competence of an audit committee is perceived to be higher when more members in the committee are financial and accounting experts (DeZoort and Salterio 2001; Cohen et al. 2002). As audit committee financial and accounting expertise directly affects the implementation and interpretation of accounting standards in financial reporting, audit committees with more financial and accounting expertise are more likely to pursue a higher degree of financial

reporting comparability. Therefore, this study predicts that firms with a larger audit committee and a higher degree of financial and accounting expertise within that committee will have a higher degree of financial reporting comparability.

Using a large sample of US firms, the empirical results suggest that a firm's financial information tends to be more comparable with its industry peers when the firm's audit committee is larger in size and has more members with financial and accounting expertise. By using standardised regressions to identify the economic significance of audit committee characteristics, this study finds that audit committee financial expertise is one of the major determinants of financial statement comparability.

This study also examines the impacts of hiring Big 4 auditors and the type of corporate governance environment on the positive association between audit committee characteristics and financial reporting comparability.<sup>3</sup> The presence of Big 4 auditors can enhance or weaken the discipline role played by the audit committee in shaping reporting comparability. On one hand, prior studies show that hiring Big 4 auditors can improve financial reporting quality because they are more competent and independent, and have higher litigation and reputation risks (Francis et al. 1999; Doyle et al. 2007). On the other hand, Big 4 auditors have unique sets of auditing rules and procedures, and are unlikely to modify the standardised procedure to meet any particular demand from their clients. As a result, firms tend to have a lower degree of accounting comparability if they hire different Big 4 auditors from their industry peers (Francis et al. 2014). Consistent with Francis et al. (2014), the results indicate that the presence of Big 4 auditors moderates the positive relation between audit committee characteristics and financial reporting comparability.

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<sup>3</sup> The Big 4 auditors are Deloitte, Ernst & Young, KPMG and PricewaterhouseCoopers. Throughout the paper, I use Big 4 generically to designate Big 4, Big 5 and Big 6 auditors, depending on the sample period.

With respect to corporate governance mechanisms, this study focuses on two characteristics of the board of directors: board size and board independence. This study finds that a highly independent and larger board of directors moderates the positive relation between audit committee characteristics and financial statement comparability. The results are consistent with the notion that the discipline role of audit committees in financial reporting and disclosure becomes weaker when the board of directors is larger and has more independent members because oversized boards tend to be less effective (Vafeas 2005; Krishnan and Lee 2009) and management is more reluctant to share information to an independent board (Kumar and Sivaramakrishnan 2008; Laux 2008).

## **1.2 Contributions to the literature**

This study provides several important contributions to the literature on audit committee and financial reporting comparability. The existing literature primarily focuses on how changes in accounting standards determine financial statement comparability (Barth et al. 2012; Liao et al. 2012; Yip and Young 2012), while the role of other factors beyond accounting standards, such as the incentives of preparers, economic agents, enforcement mechanisms and the institutional environment, is largely overlooked (Francis et al. 2014). This study adds to the literature and presents new evidence on how the audit committee, an economic agent within the firm, affects the production of financial reporting comparability.

Second, this study contributes to a broader literature that examines the role of audit committees in strengthening financial reporting quality. Prior studies have concentrated on the association between the audit committee and financial reporting quality as measured by earnings quality (Vafeas 2005; Baxter and Cotter 2009; Kent et al. 2010) and the likelihood of earnings management, restatements and fraud (Abbott et al. 2004; Farber 2005; Archambeault et al. 2008). In contrast, financial reporting comparability helps financial

statement users to better understand and compare accounting information, and thus captures a unique aspect of financial reporting quality. By examining the association between audit committee characteristics and accounting comparability, the results complement the literature and provide more insight into the discipline and oversight role of audit committees in corporate financial reporting and disclosure.

Finally, this study provides empirical evidence with respect to the ongoing debate over principles versus rules in accounting standards. Principles-based accounting standards have become dominant in accounting standards. They are more flexible but also require more professional judgement than rules-based accounting standards (Bradbury and Schröder 2012). The findings of this study have important implications for both principles-based and rules-based accounting standards because corporate governance is involved in the day-to-day application of accounting standards, especially when accounting standards are principles-based (Kothari et al. 2010). As a result, the impacts of audit committees on financial reporting comparability are relatively more significant where accounting standards are principles-based. The result of this study therefore can advise standards setters to consider the role of audit committees in shaping different aspects of financial reporting quality, including comparability, when they review and amend accounting standards and principles for corporate governance practices.

### **1.3 Structure of the thesis**

Chapter Two reviews prior literature related to the research question that investigates the audit committee characteristics and financial reporting comparability. The hypotheses of this study are also developed in Chapter Two. Chapter Three describes the sample and the research method employed to test the hypotheses. Chapter Four reports the empirical results

and presents the analysis for several robustness checks, and Chapter Five presents the conclusion of this thesis.

## **CHAPTER TWO**

### **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

#### **2.1 Introduction**

This chapter reviews the two main categories of studies related to this study, namely studies examining financial reporting comparability and studies examining the association between audit committees and financial reporting quality. Section 2.2 provides the definition of financial reporting comparability, and discusses the measures and determinants for comparability. Section 2.3 provides the background and definition of audit committee and audit committee characteristics. In addition, it also reviews the literature on audit committee and financial reporting quality. Section 2.4 develops hypotheses and Section 2.5 concludes this chapter.

#### **2.2 Financial reporting comparability**

##### *2.2.1 Definition and measures of financial reporting comparability*

Financial reporting comparability, according to the International Accounting Standards Board (IASB), is one of the key qualitative characteristics of accounting information that allows users to identify and understand the similarities and differences in the financial performance of two firms (IASB 2010). Both the IASB and the Financial Accounting Standards Board (FASB) emphasise that comparability is a basic attribute of financial information that enhances its usefulness and faithfulness (FASB 1980; IASB 2010). However, financial reporting comparability is defined in broad generalities rather than precisely by regulators. Thus, De Franco et al. (2011, p.896) state that they ‘build the definition of comparability on the idea that the accounting system is a mapping from economic events to financial statements. For a given set of economic events, two firms have



comparable accounting systems if they produce similar financial statements'. Francis et al. (2014, p.606) also define comparability as 'the closeness of two firms' reported earnings due to the consistency with which rules are applied across firms'.

The literature on financial reporting comparability is very limited, mainly due to the lack of a valid empirical measure. De Franco et al. (2011) are the first to develop an empirical measure of financial statement comparability by measuring earnings covariation, and use the empirical measure to examine economic benefits of financial statement comparability. They find that higher financial reporting comparability leads to better forecast accuracy, lower cost of information acquisition, and better quality and quantity of information. They also document that financial reporting comparability within an industry is positively related to analysts' following and accuracy, but is negatively related to analysts' optimism and forecast dispersion.

Yip and Young (2012, p.1769) further validate the comparability measure developed by De Franco et al. (2011) and show that it is consistent with the notion that 'accounting is essentially the mapping of economic transactions to financial statements, and information comparability can be defined as the similarity of firms' accounting functions that translate economic transactions into accounting data'. The DKV comparability measure is commonly used in subsequent accounting research in the area of financial reporting and disclosure (Lang et al. 2010; Barth et al. 2012; Campbell and Yeung 2012; Francis et al. 2014).

Alternative measures of financial reporting comparability have also been proposed and used by several studies, though the DKV measure continues to be the dominant one. For example, DeFond et al. (2011) use the ratio of the number of a firm's industry peers that adopt the same accounting standards before and after mandatory IFRS adoption to measure comparability. However, the DeFond et al. (2011) measure can only be used in a specific

setting, such as analysing the effect of IFRS adoption. Peterson et al. (2012) measure comparability as the similarity of words used in the accounting policy disclosure contained in the footnotes to the annual financial statements. Nevertheless, the Peterson et al. (2012) measure is insensitive to semantics, as the use of different words with the same meaning can lead to non-matches (Peterson et al. 2012).

In addition, several studies argue that research on accounting comparability should not rely on one single measure of comparability. Instead, researchers should use multiple measures for comparability, given the inherent limitations of each measure. Yip and Young (2012) use three proxies for accounting comparability. These include (1) the DKV comparability measure; (2) the similarity of the information content of earnings and the book value of equity; and (3) the degree of information transfer as measured by the association between the earnings surprise of an announcing firm and the contemporaneous stock price movements of other firms. The underlying assumption of the degree of information transfer is that information transfer only occurs when an announcement by a company conveys information that has not previously been publicly available (Yip and Young 2012). As a result, this measure cannot be generalised to firms without any information transferring.

Francis et al. (2014) employ three measures of comparability. Besides the DKV measure, they also use total accruals and abnormal accruals as a proxy for comparability, and examine the ‘closeness of accruals’ for pair firms. However, it is well documented that the accrual models used to decompose abnormal accruals are not well specified. The resulting abnormal accrual measures are likely to contain estimation errors that reflect a firm’s operational decisions rather than choices in accounting policies (Dechow et al. 2010). Francis et al. (2014) also employ a measure of comparability that reflects the style of the chief executive officer (CEO) and chief financial officer (CFO) of a firm. This is because

Bamber et al. (2010) find that individual managers have their own individual style in choice of voluntary corporate financial disclosure, and Ge et al. (2011) find that CFO style affects the choice of accounting policy. The main difficulty to measure CEO/CFO style is that there are numerous ways in which a manager could influence accounting outcomes (Ge et al. 2011). Thus, it is difficult to choose the appropriate proxy for CEO/CFO style.

This study chooses the DKV measure of comparability to examine the association between audit committee characteristics and financial reporting comparability. While alternative measures of comparability are proposed and used in different research contexts, the DKV measure is widely accepted and most suitable in the research setting examined in this study.

#### *2.2.2 Determinants of financial reporting comparability*

Accounting literature on financial reporting comparability primarily focuses on the role of accounting standards in the production of comparability, and considers accounting standards are the main determinant for comparability. A number of recent studies investigate how the adoption of International Financial Reporting Standards (IFRS) enhances financial reporting comparability both across the country and across firms within a single country. For example, Yip and Young (2012) examine cross-country information comparability in 17 European countries after the mandatory adoption of IFRS. The results demonstrate that information comparability has improved since the adoption of IFRS. Similar results are reported by Liao et al. (2012), who examine cross-country comparability after IFRS adoption in France and Germany. Barth et al. (2012) examine the comparability of accounting information between companies adopting IFRS and US companies adopting Generally Accepted Accounting Principles (GAAP). They find that non-US companies become more comparable than their US peers after the adoption of IFRS. Relatedly, DeFond et al. (2011) find that mutual funds

increase their foreign investment in the countries where IFRS is mandatory. They argue that this phenomenon is due to improved inter-country comparability.

Despite the fact that prior literature mainly focuses on the role of accounting standards in comparability, several studies argue that accounting standards cannot fully determine financial reporting outcomes such as comparability (Ball et al. 2003; Leuz et al. 2003). Researchers therefore have begun to focus on other factors beyond accounting standards that affect financial reporting outcomes, such as incentives of preparers and auditors, enforcement mechanisms, ownership structure, economic agents and institutional environments (Ball et al. 2003; Holthausen 2003; Leuz et al. 2003; Holthausen 2009), based on the notion that these factors directly affect the implementation and interpretation of accounting standards.

Ball et al. (2003) argue that the incentives of auditors and managers influence choice among accounting standards. They criticise that classifying countries by accounting standards and ignoring the incentives of management and auditors is misleading. Leuz et al. (2003) find that investors' protection is an important determinant of financial reporting quality. Leuz et al. (2003, p.506) argue: 'Strong and well-enforced outsider rights limit insiders' acquisition of private control benefits, and consequently mitigate insiders' incentives to manage accounting earnings, because they have little to conceal from outsiders.' Holthausen (2009) finds that enforcement of regulations is another important determinant for reporting outcomes. Holthausen (2009, p.457) explains: 'While enforcement is undoubtedly important, countries with strong enforcement are likely to have regulations that are more stringent than countries with weak enforcement.'

Consistent with the line suggested by the above literature, Francis et al. (2014) is among the first to investigate the role of economic agents (i.e. auditors) in shaping financial

reporting comparability. They argue that each Big 4 audit firm has its own working rules that guide the implementation and interpretation of accounting standards, thereby resulting in its own auditor style. Francis et al. (2014) find that consistent auditor style increases the comparability of reported earnings within a Big 4 auditor's clientele. The findings in Francis et al. (2014) also highlight the fact that, besides accounting standards, economic agents are also an important determinant of reporting comparability, and thus call for future research.

### *2.2.3 Consequences of financial reporting comparability*

Financial reporting comparability is in place to increase the usefulness and faithfulness of accounting information. Thus, it plays a key role in maintaining the confidence of capital market participants and other accounting information users. It can be considered as the indicator of financial reporting quality. Prior studies show a strong association between financial reporting comparability and accounting information users' perceptions. For example, Bradshaw et al. (2009) find that comparability is generally considered as a valuable attribute to the accounting information users. Kim et al. (2013) find that financial statement comparability reduces debt market participants' uncertainty about the credit risk of companies. Chen et al. (2013) find that acquirers are more likely to make better acquisition decisions when target firms' financial statements are more comparable with industry peer firms. De Franco et al. (2011) find that financial statement comparability is positively related to analyst following and forecast accuracy, and is negatively associated with analyst optimism and forecast dispersion.

Financial reporting comparability is also found to be an important characteristic in financial reporting quality in the global market. Several studies find that greater information comparability can facilitate international transactions and minimise exchange costs (Emenyonu and Gray 1996; Choi et al. 1999; Olita 2014). In addition, financial reporting

comparability has implications for cross-border financial analysis and investment, as well as for market liquidity (Botosan 1997; Bradshaw et al. 2004; Hail et al. 2010). Yu (2010) finds that greater comparability as a result of the adoption of IFRS can reduce foreign investors' information processing costs and lead to a decrease in other barriers, such as geographic distance. Therefore, high comparability not only enhances stakeholders' confidence in the market, but also facilitates globalisation.

## **2.3 Audit committee and financial reporting quality**

### *2.3.1 Background of the audit committee*

In the early 2000s, the United States established legislative requirements about audit committees for publicly listed firms, after several corporation collapses and audit failure (Linck et al. 2009; Krishnan et al. 2011). Audit committees have been introduced to strengthen corporate governance and safeguard the financial reporting quality and audit quality. In the United States, listed firms are required to have audit committees consisting of only independent directors, with at least three committee members. The Sarbanes–Oxley Act (SOX 2002, Section 2) defines the audit committee as ‘a committee (or equivalent body) established by and amongst the board of directors of an issuer for the purpose of overseeing the accounting and financial reporting processes of the issuer and audits of the financial statements of the issuer’.

Audit committees play an important role in improving investors' confidence in financial reporting quality and financial markets by adopting practices that are considered as best practice by the market (Bédard and Gendron 2010). Prior studies have demonstrated that the presence of an audit committee is associated with higher financial reporting quality. For example, companies with audit committees are less likely to have earnings management

(Dechow et al. 1996; Koh et al. 2007; Baxter and Cotter 2009; Lin and Hwang 2010) and have more voluntary information disclosure (Karamanou and Vafeas 2005) and more reliable financial information (McMullen 1996). However, the presence of audit committees does not necessarily indicate an efficient audit committee (Kalbers and Fogarty 1993; Menon and Williams 1994). In fact, the effectiveness of an audit committee in monitoring the financial reporting process is found to be largely determined by several audit committee characteristics, including audit committee independence (Klein 2002; Bronson et al. 2009), financial and accounting expertise (Carcello and Neal 2003; Abbott et al. 2004), and committee size and diligence (Zaman et al. 2011).

This study considers financial reporting comparability as an important aspect of financial reporting quality, as it enhances the usefulness and faithfulness of accounting information. To the extent that an efficient audit committee monitors the production of financial reporting and enhances financial reporting quality, audit committee characteristics are expected to be associated with financial reporting comparability.

### *2.3.2 Audit committee characteristics*

Audit committees are increasingly important in taking responsibility for financial reporting quality (Financial Reporting Council 2010). Biddle et al. (2009, p.113) define financial reporting quality as ‘the precision with which financial reporting conveys information about the firm’s operations, in particular its expected cash flows, that inform equity investors’. As a liaison between the external auditor and the management, the audit committee bridges the information asymmetry between these two parties, facilitates the monitoring process and disciplines financial disclosure decisions (Klein 1998).

After the collapse of Enron Corporation and the demise of Andersen, a critical concern is whether monitoring by the audit committee can ensure financial reporting quality. Beasley et al. (2009, p.67) suggest 'expectations related to audit committees continued to expand throughout the 1990s and early 2000s as financial reporting scandals unfolded. Many believe those expectations have sky-rocketed as a result of SOX 2002 and through subsequent changes in audit committee regulations (e.g., NYSE 2004)'. Accordingly, considerable audit committee literature has examined the effect of the audit committee on financial reporting quality. The rationale is that the audit committee has a direct responsibility in overseeing financial reporting quality. The occurrence of accounting restatements and fraud, however, indicate the weakness of its oversight role. Therefore, members of the audit committee are subject to reputation and litigation risk (Ghafran and O'Sullivan 2013). For example, Srinivasan (2005) finds that members of the audit committee are likely to lose their position on the board of directors when severe restatements occurred.

Research on the monitoring role of the audit committee tends to focus on three important aspects of financial reporting quality: (1) alleged fraud, misstatement and restatements (Abbott et al. 2004; Farber 2005; Archambeault et al. 2008; Law 2011); (2) the accuracy of actual reported numbers of earnings and earnings components (Vafeas 2005; Baxter and Cotter 2009; Kent et al. 2010); and (3) the level of disclosure (Mangena and Pike 2005; Kent and Stewart 2008).

The most discussed audit committee characteristics in literature are independence, expertise, diligence and size, while researchers also have significant interest in the association between audit committee characteristics, earnings management and earnings quality. Early research on audit committees focuses primarily on the independence of the audit committee, and suggests that firms with independent directors on audit committees can



strengthen financial reporting quality and audit quality (Klein 2002; Bradbury et al. 2006). For example, Abbott et al. (2004) find that a completely independent audit committee can prevent occurrence of a financial restatement. Lin and Hwang (2010) use a meta-analysis of 48 studies and find that a higher proportion of independent members on an audit committee can effectively prevent the occurrence of earnings management.

Subsequent research tends to focus on two important aspects of independent audit committee members: equity ownership and board tenure. Millstein (2002) states that equity ownership of audit committee members leads to a weakening of their independence. Mangena and Pike (2005) confirm Millstein (2002) finding and document that a higher proportion of audit committee members with stockholdings reduces interim financial disclosure. However, Vafeas (2005) provides empirical evidence that higher stockholdings by audit committee members may actually motivate them to more effectively monitor the financial reporting process, because the market performance of the firm can directly affect their payoffs and wealth. Another stream of literature argues that board tenure of audit committee members may impair their independence. Vafeas (2005) suggests that tenure may increase the risk of audit committee members befriending management, which may result in independence impairment of the audit committee members. Sharma and Iselin (2012) find that directors with long board tenure may not have independent judgement. In fact, the UK Corporate Governance Code requires the board of directors to explain why a non-executive director is independent if he or she has served on the board for more than nine years from the date of first election (Financial Reporting Council 2012).

In 2002, Sarbanes–Oxley (SOX) was implemented in the United States. Since then, all listed US firms are required to establish audit committees consisting only of independent members. As a result, recent research has shifted the focus from audit committee

independence to the expertise, diligence and size of the audit committee. In general, the literature suggests that a firm's financial reporting quality tends to be higher when its audit committee has committee members with financial and accounting expertise (Bryan et al. 2013). However, Osma and Noguer (2007), Piot and Janin (2007) and Baxter and Cotter (2009) use data from countries outside the United States but fail to find a significant association between audit committee characteristics and earnings quality. Ghafran and O'Sullivan (2013) have conducted a review of the literature, using both US and global data, and conclude that US-based studies demonstrate a significant and positive association between audit committee characteristics and earnings quality, but findings from other countries are inconsistent with those reported in US-based studies.

Appendix A reviews the accounting and auditing literature that examines the relationship between financial reporting quality and the characteristics of audit committees published in the six top accounting journals including *The Accounting Review* (TAR), *Journal of Accounting Research* (JAR), *Journal of Accounting and Economics* (JAE), *Review of Accounting Studies* (RAST), *Contemporary Accounting Research* (CAR) and *Auditing: A Journal of Practice & Theory* (AJPT) over the past 12 years.

## **2.4 Hypotheses development**

### *2.4.1 Audit committee size*

Audit committee size is a characteristic considered important to the effective discharge of its duties. The number of audit committee members varies across firms because the size of the committee depends not only on the committee's responsibility and authority, but also on the size of the board of directors of the firm. A large audit committee is expected to be more effective because more committee members will bring greater resources to the monitoring

process and a wider knowledge base on which to draw (Karamanou and Vafeas 2005). Accordingly, larger audit committees are more likely to discover potential problems in financial reporting through an increase in resources and knowledge base, which helps improve the quality of internal control and financial reporting. Consistent with this view, prior studies find that larger audit committees enhance financial reporting quality (Vafeas 2003; Raghunandan and Rama 2007; Sharma et al. 2009).

However, it is important to note that an oversized audit committee may be less effective if the incremental cost of communication breakdowns and inefficient decision making associated with larger groups overwhelm the benefits gained from having more people to draw on. For example, Vafeas (2005, p.255) suggests: 'Ex ante, adding more directors to a committee is likely to have a nonlinear effect on committee performance ... When committees grow too large, performance declines because of process losses and diffusion of responsibility.' Therefore, there seems to be a cut-off point for the optimal number of audit committee members, where the size of the audit committee is large enough to ensure the quality of oversight, but not so large as to become unwieldy. Consistent with this view, audit committees in US firms commonly have three to five members. This is in stark contrast to the oversized boards of directors of many firms, which tend to be inefficient monitors due to potential free-riding and communication breakdowns.

Prior study also indicates that a larger audit committee is more likely to have greater organisational status and power within the organisation (Kalbers and Fogarty 1993; Braiotta 2000; Lin and Hwang 2010). Accordingly, an audit committee with higher organisational status and greater power will be more willing to question and confront management rather than avoid sanctions for inappropriate behaviour (D'Aveni 1990). In addition, a high-status and powerful audit committee is likely to be viewed by the managers as more competent and

authoritative (D'Aveni 1990; Pollock et al. 2010). This would also make managers more reluctant to provide poor quality financial information or manipulate accounting numbers. Consistent with this notion, Badolato et al. (2014) find that audit committees with both financial expertise and high relative status are associated with lower levels of earnings management.

This study considers financial statement comparability as an important aspect of financial reporting quality. To the extent that larger audit committees have better monitoring performance over management in financial reporting, this study predicts a positive association between financial reporting comparability and the size of audit committee. This leads to the first hypothesis:

*H1a: Firms with larger audit committee size will have more comparable financial information than firms with smaller audit committee size.*

#### *2.4.2 Audit committee expertise*

Another key characteristic of audit committees is expertise. There are three main categories of expertise of audit committees: outside directorship (Beasley 1996; Vafeas 2005); financial and accounting expertise (Abbott et al. 2004; Krishnan and Visvanathan 2008); and industry expertise (Cohen et al. 2014).

Outside directorship means an audit committee member holds an external board seat. Prior studies find that outside directorship leads to lower earnings management and higher financial reporting quality (Yang and Krishnan 2005). In addition, Vafeas (2005) documents that financial reporting quality is higher when its audit committee members have outside directorships, because audit committee members have incentives to protect their reputation.

However, Bryan et al. (2004) argue that directors with too many outside directorships and busy business schedules reverse the benefits of outside directorships.

With respect to financial and accounting expertise, there are some variations in the definition. For example, Section 407 Sarbanes–Oxley (SOX) defines the term ‘financial expert’ as a person who has: (1) an understanding of Generally Accepted Accounting Principles (GAAP) and financial statements; (2) experience in preparation or auditing of financial statements; (3) experience with internal accounting controls; and (4) understanding of audit committee functions. However, the original SOX proposal would have included as financial expertise only CPAs and people with direct accounting experience. Dhaliwal et al. (2006) conduct a meta-analysis for different types of financial and accounting expertise, and find that only accounting expertise has significant association with financial reporting quality. Prior studies find that audit committee financial expertise directly affects the implementation and interpretation of accounting standards, because the competence of an audit committee is perceived to be higher when more members of the audit committee are financial and accounting experts (DeZoort and Salterio 2001; Cohen et al. 2002). For example, Burak Güner et al. (2008, p.324) state that ‘financial expertise affects firm policies beyond more accurate disclosure and better audit committee performance’. McDaniel et al. (2002) suggest that efforts to enhance audit committee financial expertise may affect the way a committee assesses a firm’s financial reporting quality. Furthermore, prior studies find that financial and accounting expertise leads to higher financial reporting quality, as measured by lower financial restatement, lower level of earnings management, higher analysts’ ratings and more conservative accounting information (Xie et al. 2003; Abbott et al. 2004; Bradshaw et al. 2004; Mangena and Pike 2005; Krishnan and Visvanathan 2008; Visvanathan and Krishnan 2008; Baxter and Cotter 2009; Lin and Hwang 2010).

In addition, the monitoring role of an audit committee with financial and accounting expertise seems to be appreciated by the market. The appointment of audit committee members with financial and accounting expertise can result in significant positive market reaction (Davidson III et al. 2004; DeFond et al. 2005). For example, DeFond et al. (2005) find positive abnormal returns when a financial and accounting expert is appointed to the audit committee.

Research on industrial expertise is very limited, because very few regulatory bodies require audit committees to have industrial expertise (Cohen et al. 2014). Researchers use the term ‘non-accounting expertise’ to cover either broad financial expertise (Visvanathan and Krishnan 2008) or other expertise (Xie et al. 2003; Baxter and Cotter 2009). Cohen et al. (2014) find that financial and accounting expertise combined with industry expertise can significantly enhance the effectiveness of an audit committee in monitoring the financial reporting process, because industrial expertise can help the audit committee understand and evaluate industry-specific estimates.

This study only focuses on financial and accounting expertise in audit committees because only financial and accounting expertise is able to enhance financial reporting quality (Dhaliwal et al. 2010; Sharma and Iselin 2012). Dhaliwal et al. (2010, p.788) argue that ‘improper financial accounting practices are assumed to obscure real performance and diminish investors’ ability to make informed decisions, leading to higher agency costs (Xie et al. 2003)’. As the key corporate governance mechanism, the audit committee plays an important role in reducing agency costs by overseeing the effectiveness of management’s financial reporting policies (Klein 2002; Bedard et al. 2004; Archambeault et al. 2008; Dhaliwal et al. 2010). In addition, Zhang et al. (2007) and Krishnan and Visvanathan (2008) suggest that financial and accounting expertise in the audit committee provides it with an

effective means of monitoring management's financial reporting practices, thus reducing the agency costs.

Collectively, prior literature suggests financial and accounting expertise in the audit committee enhances financial reporting quality and reduces agency cost. In addition, De Franco et al. (2011) suggest that more comparable financial information reduces investors' costs of information acquisition and processing. Accordingly, this study predicts that audit committees with more financial and accounting expertise are more likely to pursue a higher degree of financial reporting comparability, thereby producing higher quality financial information and reducing agency and information costs of shareholders. This leads to the second hypothesis:

*H1b: Firms with a higher degree of financial and accounting expertise in audit committees will have a higher degree of financial reporting comparability than firms with a lower degree of financial and accounting expertise in audit committees.*

#### *2.4.3 Audit committee and comparability: The role of Big 4 auditors*

Prior studies show that hiring one of the Big 4 auditors can improve a firm's financial reporting quality (Francis et al. 1999; Dechow and Dichev 2002; Doyle et al. 2007). Big 4 auditors are generally more competent and independent than non-Big 4 audit firms, because they heavily invest in auditor training and facilitator programs, and have a large portfolio of clients (Khurana and Raman 2004). In addition, auditing theory suggests that Big 4 auditors are of high quality because of the higher risk to their reputation (DeAngelo 1981) and the higher risk of litigation (Dye 1993). In contrast, a small auditor with fewer clients and less wealth at risk of litigation tends to have higher incentives to 'satisfy' its clients in order to retain them.

However, the presence of a Big 4 auditor can have diverse impacts on the degree of financial reporting comparability. Francis et al. (2014) find that firms have a higher degree of financial reporting comparability when they are audited only by the same Big 4 auditor. This is because each Big 4 auditor has its own unique set of internal working rules that guide and standardise the auditor's application and interpretation of auditing and accounting standards. Conversely, firms tend to have a lower degree of financial reporting comparability when they use different Big 4 auditors from their industry peers. Therefore, hiring Big 4 auditors does not necessarily lead to a higher degree of financial reporting comparability.

Similarly, the impact of Big 4 auditors on the association between audit committee characteristics and reporting comparability is unclear. On one hand, the audit committee serves as a liaison between the external auditor and the management. A higher quality auditor (i.e. a Big 4 auditor) will facilitate the monitoring process of the audit committee, thereby leading to a stronger association between audit committee characteristics and reporting comparability. On the other hand, as Big 4 auditors have their unique sets of auditing rules and procedures, they are unlikely to modify the standardised procedure to meet any particular demand (such as more comparable financial information) from their clients, compared with non-Big 4 auditors. As a result, the presence of Big 4 auditors may moderate the association between audit committee characteristics and financial reporting comparability. This leads to the third hypothesis, which is interpreted consistently with the latter argument:

*H2a: The presence of Big 4 auditors moderates the association between audit committee characteristics and financial reporting comparability.*



#### *2.4.4 Audit committee and comparability: The role of the corporate governance environment*

The relationship between audit committee characteristics and financial reporting comparability can also vary across different corporate governance environments within the firm, because better corporate governance environments facilitate the disciplining role of the audit committee. For example, Krishnan and Lee (2009) find that firms with a strong corporate governance environment have a higher demand for audit committee members with financial and accounting expertise. Krishnan and Visvanathan (2008) show that audit committees with financial and accounting expertise are associated with higher financial reporting quality, but only in firms with a strong corporate governance environment. As audit committee members are also directors, this study focuses on two important aspects of boards of directors, namely board independence and board size.

##### *Board independence*

Empirical studies provide mixed evidence on the relationship between board independence and the corporate governance environment. On one hand, board independence is found to be positively associated with financial reporting quality and the performance of firms. For example, Klein (2002) and Krishnan (2005) report a positive relationship between board independence and financial reporting quality. Farber (2005) finds that the market value of a firm increases with board independence, leading to positive economic benefits.

On the other hand, a highly independent board of directors does not necessarily lead to a better corporate governance environment. For example, Laux (2008) finds that firms with a more independent board of directors are more likely to fire an inappropriate CEO. Given the information asymmetry between the management and the independent board of directors, the board needs to offer a generous severance package to induce CEOs to reveal negative information that leads to their own dismissal. As a result, CEOs are more reluctant

to share critical information to the independent board of directors (Laux 2008), which hinders the monitoring role and the decision making of the board. In addition, CEOs will have less incentive to work hard *ex ante*, if they realise they can ‘cash in on a golden handshake simply by being fired’ (Laux 2008, p.138).

In fact, a highly independent board can worsen the corporate governance environment. Kumar and Sivaramakrishnan (2008) find that the performance of the board is worsened when the board composition is altered to include directors that are less dependent on CEOs. More dependent directors perform relatively poorly in designing incentive-efficient contracts for the top management. However, poor contracting performance leads to a personal wealth cost, if dependent directors hold equity in the firm. Therefore, more dependent directors will optimally attempt to offset their expected wealth loss *ex post* by improving their monitoring effort *ex ante*, thereby enhancing the firm’s corporate governance environment (Kumar and Sivaramakrishnan 2008).

Given the mixed evidence on the association between board independence and the corporate governance environment, it is unclear whether an independent board would enhance or moderate the association between audit committee characteristics and financial reporting comparability. The fourth hypothesis is stated in the null form as follows:

*H2b: Board independence does not affect the association between audit committee characteristics and financial reporting comparability.*

#### *Board size*

The empirical evidence on the association between board size and corporate governance is also mixed. Several studies indicate that firms with larger board size tend to have higher financial reporting quality. For example, Laksmana (2008) suggests that firms with larger

board size are more likely to allow better distribution of workload and committee assignments, leading to more effective board decisions and thus enhancing the corporate governance environment and improving financial reporting quality.

However, larger boards can be less effective monitors because of the potential for free-riding, poor communication and inefficient decision making (Dechow et al. 1996; Bushman et al. 2004). As the board size increases, the board become less effective because the complexity of coordination and process outweighs the benefits gained from having more people and resources to draw on, especially with boards that are traditionally oversized (Jensen 1993). Consistent with this view, Vafeas (2005) documents that financial reporting quality is positively associated with audit committee size and negatively associated with board size. Krishnan and Lee (2009) also find that the effectiveness of corporate governance in a firm is negatively associated with board size. In line with the latter view, this study expects that larger boards lead to less effective corporate governance, which in turn moderates the association between audit committee characteristics and financial reporting comparability. The fifth hypothesis is stated as follows:

*H2c: The size of the board of directors moderates the association between audit committee characteristics and financial reporting comparability.*

## **2.5 Summary**

The importance of financial reporting comparability has been long recognised by the regulators, because comparability is one of the key qualitative characteristics of financial information. It can enhance the usefulness and faithfulness of accounting information. Prior studies demonstrate that high comparability in financial reporting can enhance the confidence of investors and creditors, and reduce the cost of information processing and

barriers to international transactions. De Franco et al. (2011) have developed and validated an empirical measure of financial reporting comparability, which has been extensively employed by follow-up studies.

The majority of follow-up studies focus on the role of accounting standards in the production of comparability, because they believe accounting standards could be the primary determinant for comparability. Most of these studies utilise the mandatory adoption of IFRS as a unique setting and examine whether the change of accounting standards can lead to changes in financial statement comparability. More recently, researchers have begun to explore other determinants for comparability. Francis et al. (2014) extend the comparability literature and show that, besides accounting standards, economic agents such as auditors are also an important determinant of reporting comparability. However, while auditors are external economic agents hired by the companies to certify financial statements, it is entirely unclear whether economic agents serving internally in firms, such as managers and boards of directors, would also affect the production of comparable financial information.

This study focuses on a specific group of internal economic agents, namely the audit committee. As a key mechanism in corporate governance, the audit committee can effectively strengthen audit quality and improve financial reporting quality. Nonetheless, the effectiveness of the audit committee is largely determined by its independence, expertise, diligence and size. A number of prior studies demonstrate that the above audit committee characteristics can effectively prevent earnings management, thus enhancing financial reporting quality. This study considers financial reporting comparability to be an important indicator of financial reporting quality, and investigates the role of audit committee characteristics in the production of financial reporting comparability.

## **CHAPTER THREE**

### **SAMPLE AND METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the research methodology used to test the hypotheses developed in Section 2. Section 3.2 describes samples construction; Section 3.3 discusses the research methods used to examine the hypotheses; Section 3.4 presents the measurement for key variables utilised in the tests; and Section 3.5 discusses the measurement of control variables.

#### **3.2 Sample construction**

The empirical analysis employs annual accounting data, audit committee characteristics and board characteristics data from the merged Compustat database and Governance Metrics International (GMI) database for the period of 2004–2008<sup>4</sup>. The GMI database provides 500 governance elements across six characteristics, including board accountability, corporate social responsibility, executive remuneration, financial disclosure and internal controls, takeover controls, and ownership base and shareholder rights (Brown et al. 2011). It is widely used in numerous studies on board and audit committee characteristics. Following prior literature, for a firm-year to be included in the sample, it must satisfy the following requirements: (1) non-missing comparability data; (2) non-missing audit committee characteristics data; and (3) non-missing board characteristics data. To eliminate the undue influence of outliers, this study eliminates the top and bottom one percentile of key variables used in the regression analysis.

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<sup>4</sup> The Governance Metrics International (GMI) database provides the data for audit committee characteristics for the period of 2004-2008, because the data provider of GMI has changed the procedure of data collection since 2009.

### 3.3 Methodology

This study first examines the direct relationship between audit committee characteristics and comparability by estimating the following regression model:

$$\text{Model 1: } \text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where  $\text{CompAcctInd}_i$  is the mean of  $\text{CompAcct}_{ijt}$  for firm  $i$  for all firms in firm  $i$ 's industry.  $\text{CompAcct}_{ijt}$  is comparability of financial information for a pair of firms (firm  $i$  and firm  $j$ ) in the same industry, calculated by the De Franco et al. (2011) model;

$\text{ACC}_i$  is the audit committee characteristic variable of interest, representing  $\text{ACSIZE}_i$  (the size of audit committee for firm  $i$ ) or  $\text{ACEXP}_i$  (the percentage of financial and accounting expertise in firm  $i$ );

Controls are control variables identified in previous studies as the possible factors that might affect the degree of financial reporting comparability, including sales growth (SG), firm age (FIRM\_AGE), firm size (SIZETA), financial leverage (LEV), cash flow from operation (CFO), the probability of loss (LossProb), standard deviation of sales (STD\_Sales), and the indicator of foreign operation (DFor);

and  $\varepsilon_i$  is the error term.

$\beta_1$  is the coefficient for audit committee characteristic variables. According to H1, that audit committee expertise and audit committee size are positively related to financial reporting comparability,  $\beta_1$  is expected to be positive.

To examine the impacts of Big 4 auditors (BIG4) on the relationship between audit committee characteristics and financial reporting comparability, Model 1 is augmented by

incorporating an interaction term between BIG4 and an audit committee characteristic such as audit committee expertise or audit committee size. The regression model is as follow:

$$\text{Model 2: CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \beta_2 * \text{BIG4}_i + \beta_3 * \text{BIG4}_i * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where  $\text{BIG4}_i$  is an indicator variable equal to 1 if firm  $i$ 's auditor is one of the Big 4 auditing firms, and zero otherwise;

$\beta_3$  is the coefficient for the interaction term between BIG4 and audit committee characteristics. A positive (negative) and significant coefficient of  $\beta_3$  indicates that the relation between audit committee characteristic and reporting comparability is stronger (weaker) when the firm is the client of a Big 4 auditor.

Finally, to examine the impacts of the corporate governance environment on the relationship between audit committee characteristics and financial statement comparability, Model 1 is extended by an interaction term between the corporate governance variable and an audit committee characteristic such as audit committee expertise or audit committee size. As discussed above, this study focuses on two corporate governance variables in relation to board characteristics: board independence (INDEP) and board size (BSIZE). Following Krishnan et al. (2011), INDEP is defined as the proportion of independent directors on the board. BSIZE is defined as the log of number of board members. The regression model is as follow:

$$\text{Model 3: CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \beta_2 * \text{BDC}_i + \beta_3 * \text{BDC}_i * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where  $BDC_i$  is the board characteristic variable for firm  $i$ , representing BSIZE (the natural logarithm of the number of board members) or INDEP (the proportion of non-executive board members serving on the board);

$\beta_3$  is the coefficient for the interaction term between BDC and audit committee characteristics.  $\beta_3$  is positive (negative), if the relationship between audit committee and comparability is stronger (weaker) when the firm has a higher number of independent board members or a larger board.

### **3.4 Variables measurements**

#### *3.4.1 Financial reporting comparability*

The key dependent variable used in this study is financial reporting comparability. Barth et al. (2012, p.73) state that ‘the basic notion of comparability in the FASB’s and IASB’s conceptual frameworks for financial reporting underlying IFRS and US GAAP is that accounting amounts are comparable if, when two firms face similar economic outcomes, the firms report similar accounting amounts. Similarly, if the two firms face different economic outcomes they should report different accounting amounts’. Consistent with this notion, De Franco et al. (2011); Barth et al. (2012) and Francis et al. (2014) consider accounting earnings as the key indicator of economic outcome, and accordingly measure comparability through comparing reported earnings between firm-pairs.

In particular, financial reporting comparability is measured as the degree to which reported earnings of two firms from the same industry and fiscal year covary over time, because they are subject to the same general economic shocks<sup>5</sup> (De Franco et al. 2011; Barth

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<sup>5</sup> Economic shocks are unexpected or unpredictable events that affect an economy, either positively or negatively.



et al. 2012; Francis et al. 2014). This study follows De Franco et al. (2011) and measures financial statement comparability by comparing the difference of reported earnings between a particular firm (i.e., firm i) and another firm in the same industry (e.g., firm j) for 16 consecutive quarters. The use of 16 consecutive quarters provides sufficient historical data for estimating accounting comparability (De Franco et al. 2011; Francis et al. 2014).

Following De Franco et al. (2011), this study first defines the accounting system as a mapping from economic events to financial statement. It can be expressed as follows:

$$\text{Financial Statements}_i = f_i (\text{Economics Events}_i)$$

where  $f_i$  represents the accounting system of firm i. De Franco et al. (2011, p.899) state that ‘two firms have comparable accounting systems if their mappings are similar. Two firms, i and j, with comparable accounting should have similar mappings, such that for a given set of economic events, X, firm j produces similar financial statements to firm i’.

Second, an empirical model of the firm’s accounting system is developed and estimated using the 16 previous quarters of data:

$$\text{Earnings}_{it} = \alpha_i + \beta_i \text{Return}_{it} + \varepsilon_{it}$$

where *Earnings* is quarterly net income before extraordinary items divided by the beginning-of-period market value of equity, and *Return* is the stock price return during the quarter.

Third, the following equations are estimated to measure the distance between functions, a measure of closeness or comparability, consistent with the notion that ‘the closeness of the functions between two firms represents the comparability between firms’ (De Franco et al. 2011, p.900). Greater values (less negative) of  $\text{CompAcct}_{ijt}$  indicate greater accounting comparability (De Franco et al. 2011).

Firm *i*:

$$E(Earnings)_{iit} = \hat{\alpha}_i + \hat{\beta}_i Return_{it}$$

Firm *j*:

$$E(Earnings)_{ijt} = \hat{\alpha}_j + \hat{\beta}_j Return_{it}$$

Comparability between pair firms is calculated as follow:

$$CompAcct_{ijt} = -1/16 \times \sum_{t=15}^t |E(Earnings)_{iit} - E(Earnings)_{ijt}|$$

where  $E(Earnings)_{iit}$  is the predicted earnings of firm *i*, given firm *i*'s function and firm *i*'s return in period *t*; and  $E(Earnings)_{ijt}$  is the predicted earnings of firm *j*, given firm *j*'s function and firm *i*'s return in period *t*. Comparability between firm *i* and firm *j* ( $CompAcct_{ijt}$ ) is the negative value of the average absolute value of difference between the earnings of firm *i* and firm *j*.

Finally, after calculating the *i*–*j* measure of comparability, a firm-year measure of financial reporting comparability is computed by ‘aggregating the firm *i* and firm *j*  $CompAcct_{ijt}$  for given firm *i*’ (De Franco et al. 2011, p.900). This study uses the mean of reporting comparability for firm *i* for all firms in firm *i*'s industry, denoted as  $CompAcctInd$ . Firms with high  $CompAcctInd$  have high financial reporting comparability in their industries.

### 3.4.2 Audit committee characteristics, Big 4 auditors and board characteristics

#### *Audit committee size (ACSIZE)*

Audit committee size is measured as the natural logarithm value of the number of members on the audit committee at the end of the financial year. Using natural logarithm value to

measure audit committee size is common in literature (Krishnan et al. 2011; Bryan et al. 2013). According to the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC), the minimum audit committee size is three directors. Prior studies argue that larger audit committees may be more effective, as more members bring greater resources to the monitoring process, thereby enhancing financial reporting quality (Vafeas 2003; Raghunandan and Rama 2007; Sharma et al. 2009).

#### *Audit committee expertise (ACEXP)*

For audit committee expertise, this study focuses on financial and accounting expertise of the audit committee. Financial and accounting expertise refers to a director who has financial and accounting qualifications, CFA or CPA certification or financial- and accounting-related experience (Krishnan et al. 2011). This definition is consistent with Section 407 of SOX. The degree of audit committee expertise is measured as the percentage of audit committee members with financial and accounting expertise. A higher proportion of members with financial and accounting expertise indicates a higher level of audit committee expertise. A similar definition is widely adopted by prior studies, such as Krishnan and Visvanathan (2008), Krishnan et al. (2011) and Sultana and Van Der Zahn (2013).

#### *Big 4 auditor (BIG4)*

Big 4 auditor is an indicator variable equal to 1 if a firm's auditor is one of the Big 4 auditing firms, and 0 otherwise. Prior literature shows that Big 4 clients tend to have higher financial reporting quality than non-Big 4 clients (Francis et al. 1999). However, each Big 4 audit firm has its own working rules that guide and standardise the auditor's application of accounting and auditing standards (Francis et al. 2014). Therefore, hiring Big 4 auditors is not necessary to be associated with a higher degree of financial reporting comparability.

#### *Board size (BSIZE)*

Board size is the number of directors serving in the board. Evidence on the relationship between board size and corporate governance is mixed. A larger board of directors brings more resources and a wider knowledge base to draw on, which enhances the discipline role of the board. However, an oversized board can hinder the monitoring of the board because of process losses and diffusion of responsibility (Vafeas 2005).

#### *Board independence (INDEP)*

Following Krishnan et al. (2011), board independence is measured as the proportion of independent directors on the board. Board independence is an indicator for corporate governance strength (Carcello et al. 2011). Prior studies find that board independence is positively associated with financial reporting quality, because a greater proportion of independent directors in the board strengthens board monitoring over shareholders (Beasley 1996; Dechow et al. 1996; Vafeas 2005). However, a highly independent board does not necessarily result in a better corporate governance environment. This is because dependent directors will optimally attempt to offset their expected wealth loss *ex post* by improving their monitoring effort *ex ante*, as they hold the equity in firms (Kumar and Sivaramakrishnan 2008).

### **3.5 Control variables**

Lang et al. (2010) indicate that there is no theoretical or empirical guidance about the complete set of control variables to be included in a regression model, which interprets financial reporting comparability. In fact, the choice of control variables varies in the existing literature on financial reporting comparability. Lang et al. (2010) control for firm size and market-to-book ratio, because these variables are widely used to capture unobservable firm characteristics. De Franco et al. (2011) control for firm size, book-market

ratio and return of assets. Francis et al. (2014) employ a set of variables identified in prior literature that could affect earnings between two similar firms.

This study uses a large set of control variables, including sales growth, firm age, firm size, leverage, cash flows from operation, loss probability, standard deviation of sales and foreign operations. These firm characteristics are commonly used by prior studies with control firms treated along these dimensions or in a model of comparable peer choice (Bhojraj and Lee 2002; Kothari et al. 2005; De Franco et al. 2011; Francis et al. 2014). It is these firm characteristics that are found to affect the performance of firms and financial reporting quality.

#### *Sales Growth (SG)*

Sales growth is growth rate of sales from year t-1 to year t. It is expected that firms with higher sales growth are more likely to have higher financial reporting quality, because firms with higher sales growth are likely to have more investment opportunity and higher demand for financial reporting quality (Biddle et al. 2009). Accordingly, a firm with a higher sales growth rate is expected to have a higher degree of reporting comparability.

#### *Firm age (FIRM\_AGE)*

Firm age is the natural logarithm of the number of years a firm has appeared in the CRSP database. Older firms are more likely to have a more effective corporate governance mechanism and have commensurate financial reporting controls, which can reduce the likelihood of earnings management and restatement (Archambeault et al. 2008; Sharma and Iselin 2012). As a result, older firms are expected to have higher degree of comparability.

#### *Firm size (SIZE<sub>TA</sub>)*

Firm size is the natural logarithm of total assets. Prior literature finds that larger firms are likely to have higher financial reporting quality, because larger firms have more effective internal control systems and face more scrutiny from the market (Bedard et al. 2004). However, Davidson et al. (2005) find that larger firms are more likely to conduct earnings management than smaller firms to avoid reporting earnings decreases. Therefore, the effects of firm size on financial reporting quality are ambiguous.

#### *Leverage (LEV)*

Financial leverage is defined as the sum of total long-term debt (DLTT) and debt in current liabilities (DLC) over total assets. Ahmed and Duellman (2007) state that leverage affects the demand for conservative accounting because higher financial leverage leads to greater bondholder and shareholder conflicts and thus generates higher demand for conservative accounting information. However, Press and Weintrop (1990) and DeFond and Jiambalvo (1994) report a positive association between levels of leverage and earnings management. High levels of leverage might increase management's motivation to practise earnings management (Press and Weintrop 1990). Therefore, the association between financial leverage and financial reporting comparability is an empirical question.

#### *Cash flows from operation (CFO)*

Cash flows from operation represent a firm's financial performance. The management has less incentive to practise earnings management when the firm has higher cash flows from operation (Burgstahler and Dichev 1997). As a result, firms with higher cash flows from operation are expected to have better quality financial reporting.

#### *Loss probability (LossProb)*

Loss probability is the proportion of years for which the firm reports a negative income before extraordinary items in the past five years. Prior literature demonstrates that management is more likely to practise earnings management if the firm has a high probability of loss. When the firm has a great probability of loss, management is likely to conduct earnings manipulation to avoiding a reported loss (Beatty et al. 2002). Consistent with this view, firms with a low probability of loss are expected to have high financial reporting quality.

*Volatility of sales (STD\_Sales)*

Volatility of sales is calculated as the standard deviation of sales over the preceding five years. Francis et al. (2014) find that firms with a greater variation in sales are likely to have a lower level of financial reporting comparability.

*Foreign operations (DFor)*

Foreign operations is an indicator variable equal to 1 if the firm has foreign operations, and zero otherwise. Firms with foreign operations tend to have a lower level of comparability because different accounting standards and regulations are applied in their overseas subsidiaries. Therefore, firms with foreign operations have more difficulty in producing comparable financial reporting than their peers that do not have foreign operations.

Table 1 lists the definitions and measurement for all variables.

**Table 1 Variable definitions**

Variable	Measurement
<b>Comparability Variable</b>	
<i>CompAcctInd</i>	The mean of <i>CompAcct</i> for firm <i>i</i> for all firms in firm <i>i</i> 's industry. <i>CompAcct</i> is the absolute value of the difference of the predicted value of a regression of firm <i>i</i> 's earnings on firm <i>i</i> 's return using the estimated coefficients for firms <i>I</i> and <i>j</i> , respectively. It is calculated from each firm <i>i</i> – firm <i>j</i> pair ( <i>i</i> ≠ <i>j</i> ), <i>j</i> =1 to <i>J</i> firms in the same two-digit SIC industry as firm <i>i</i>
<b>AC Characteristics Variables</b>	
ACEXP	Percentage of audit committee members with financial and accounting expertise
ACSIZE	The natural logarithm of the number of directors in audit committee
<b>Firm-specific control variables</b>	
Sales Growth (SG)	Sales growth equals sales in current year <i>t</i> minus sales in year <i>t</i> -1 divided by sales in year <i>t</i> -1
FIRM_AGE	The natural logarithm of the number of years the firm has CRSP data
SIZETA	The natural logarithm of the firm's total assets (AT)
Leverage (LEV)	(Total long-term debt (DLTT) + debt in current liabilities (DLC)) / Total assets (AT)
CFO	Cash flow from operations divided by total assets
LossProb	Loss probability is the proportion of quarters for which the firm reports a negative quarterly income before extraordinary items in the fiscal year
STD_Sales	Standard deviation of sales is calculated over the preceding fiscal year
DFor	Indicator variable equal to 1 if the firm has foreign operations, and 0 otherwise
<b>Other Variables</b>	
BSIZE	The natural logarithm of the number of board members
INDEP	Proportion of non-executive board members who serve on the board
BIG4	Indicator variable equal to 1 if the auditor is one of the Big 4 auditing firms, and 0 otherwise



## CHAPTER FOUR

### RESULTS

#### 4.1 Introduction

Empirical results of this study are reported and discussed in this chapter. Section 4.2 describes descriptive statistical results. Section 4.3 reports the results of univariate analysis. Section 4.4 presents the results of multivariate regression analysis. Section 4.5 discusses the results of robustness checks.

#### 4.2 Descriptive statistics

Table 2 reports descriptive statistics for all variables used in the analysis, including financial reporting comparability (*CompAcctInd*), audit committee size (*ACSIZE*), audit committee financial and accounting expertise (*ACEXP*) as well as firm-specific control variables. To mitigate the undue influence of outliers, the top and bottom percentile of the regression variables are eliminated.

*CompAcctInd* is the mean of a firm's comparability value within the firm's industry. By construction, all comparability measures are negative. Therefore, greater values (less negative) of *CompAcctInd* indicate greater financial reporting comparability. The result shows that the average firm has an average (median) value of  $-3.084$  ( $-2.750$ ) for financial reporting comparability, consistent with De Franco et al. (2011).

*ACSIZE* is the natural logarithm of the number of directors in the audit committee in this study. The mean value of *ACSIZE* is 1.244, similar to the value (1.320) reported by Krishnan et al. (2011). The results indicate that the average sample firm has about 3.5 members in its audit committee, complying with BRC's recommendations.

The result for *ACEXP* shows that the average firm has 39.4% of audit committee members with financial and accounting expertise. In addition, the results indicate that average sample companies have one or more than one member with financial and accounting expertise in the audit committee, consistent with results reported by Abbott et al. (2004) and BRC's recommendations.

Table 2 also presents the descriptive statistics for other firm-specific control variables. The results show that 90% of firms are the clients of Big 4 auditors. The average size of the board of directors of the sample firms is 8.641, and the average percentage of independent directors in the board is 71.3%. In addition, about 36% of the sample companies have foreign operations.

**Table 2 Descriptive Statistics**

Variable	N	Mean	Median	Std Dev	Q1	Q3
<b>Comparability Variable</b>						
<i>CompAcctInd</i>	5656	-3.084	-2.750	1.636	-3.740	-1.960
<b>AC Characteristics Variables</b>						
ACSIZE	5556	1.244	1.099	0.249	1.099	1.386
ACEXP	5556	0.394	0.333	0.296	0.250	0.500
<b>Firm-specific control variables</b>						
SG	5556	0.143	0.103	0.234	0.024	0.215
FIRM_AGE	5656	5.274	5.176	0.745	4.736	5.901
SIZETA	5518	7.081	6.925	1.538	5.930	8.106
LEV	5579	0.198	0.175	0.183	0.017	0.308
CFO	5531	0.089	0.096	0.102	0.051	0.145
LossProb	5652	0.248	0.200	0.318	0.000	0.400
STD_Sales	5536	0.136	0.102	0.111	0.060	0.175
<b>Other Variables</b>						
BSIZE	5568	8.641	8.000	2.197	7.000	10.000
INDEP	5568	0.713	0.727	0.147	0.625	0.833
BIG4	5653	0.904	1.000	0.295	1.000	1.000
DFor	5656	0.362	0.000	0.481	0.000	1.000

This table presents summary statistics for selected variables used in the analysis. The sample consists of 5,656 firm-year observations between 2004 and 2008.

Panel A reports descriptive statistics for comparability variables. The test variables ACEXP and ACSIZE are reported in Panel B. Panel C reports firm-specific control variables, Big 4 auditors variable and corporate governance environment variables.

All variables are defined in Table 1.

### **4.3 Correlation analysis and univariate analysis**

#### *4.3.1 Correlation analysis*

This section first provides preliminary insights into the relationship between audit committee characteristics and financial reporting comparability from correlation analysis. The results of Pearson and Spearman correlations for selected regression variables are reported in Table 3. The results of Pearson correlation analysis indicate that ACSIZE and ACEXP are positively and significantly associated with CompAcctInd, with a Pearson correlation coefficient of 0.080 and 0.113 respectively. The results of Spearman correlation analysis confirm that ACSIZE and ACEXP are positively related to CompAcctInd. The Spearman correlation coefficients are 0.079 and 0.143 respectively. The positive and significant pairwise correlations lead to preliminary support for hypotheses H1a, that firms with larger audit committee size will have a higher degree of financial reporting comparability, and H1b, that firms with a higher degree of financial and accounting expertise in audit committees will have a higher degree of financial reporting comparability.

Moreover, ACSIZE is positively associated with FIRM\_AGE, SIZETA, LEV, DFor, and negatively associated with LossProb. This implies that older and larger firms are more likely to have larger audit committees. ACEXP is positively associated with SIZETA, LEV, CFO, and negatively associated with SG and LossProb. This implies that profitable and larger firms tend to have a higher percentage of audit committee member with expertise.

Further, ACSIZE is positively associated with BSIZE, INDEP and BIG4. This is consistent with the notion that firms with larger and more independent boards have larger audit committees. It also indicates that a firm with a larger audit committee is more likely to be the client of a Big 4 audit firm. On the other hand, ACEXP is positively associated with

INDEP, indicating that a firm with a more independent board is more likely to have more audit committee members with financial and accounting expertise.

**Table 3 Correlation Coefficients**

Var.	CompAcctInd	ACSIZE	ACEXP	SG	FIRM_AGE	SIZETA	LEV	CFO	LossProb	STD_Sales	BSIZE	INDEP	BIG4	DFor
CompAcctInd	1.000 .	0.079* 0.00	0.143* 0.00	0.021 0.13	0.124* 0.00	0.077* 0.00	-0.063* 0.00	0.186* 0.00	-0.396* 0.00	-0.117* 0.00	0.073* 0.00	0.031* 0.03	-0.006 0.68	-0.061* 0.00
ACSIZE	0.080* 0.00	1.000 .	-0.172* 0.00	-0.023 0.11	0.273* 0.00	0.343* 0.00	0.135* 0.00	0.069* 0.00	-0.138* 0.00	-0.021 0.13	0.421* 0.00	0.219* 0.00	0.110* 0.00	0.045* 0.00
ACEXP	0.113* 0.00	-0.100* 0.00	1.000 .	-0.062* 0.00	-0.027* 0.05	0.001 0.95	0.003 0.86	0.021 0.14	-0.009 0.53	-0.031* 0.03	-0.016 0.27	0.046* 0.00	0.009 0.53	-0.011 0.44
SG	0.035* 0.01	-0.013 0.36	-0.049* 0.00	1.000 .	-0.097* 0.00	0.046* 0.00	-0.044* 0.00	0.150* 0.00	-0.072* 0.00	0.073* 0.00	-0.073* 0.00	-0.053* 0.00	0.019 0.18	0.002 0.89
FIRM_AGE	0.111* 0.00	0.271* 0.00	0.003 0.85	-0.106* 0.00	1.000 .	0.368* 0.00	0.118* 0.00	0.073* 0.00	-0.217* 0.00	-0.079* 0.00	0.350* 0.00	0.167* 0.00	0.057* 0.00	0.056* 0.00
SIZETA	0.071* 0.00	0.336* 0.00	0.042* 0.00	0.021 0.13	0.402* 0.00	1.000 .	0.396* 0.00	0.166* 0.00	-0.291* 0.00	-0.206* 0.00	0.573* 0.00	0.144* 0.00	0.320* 0.00	0.093* 0.00
LEV	-0.134* 0.00	0.092* 0.00	0.029* 0.04	0.000 0.99	0.054* 0.00	0.305* 0.00	1.000 .	-0.131* 0.00	0.017 0.21	-0.044* 0.00	0.253* 0.00	0.059* 0.00	0.141* 0.00	-0.026 0.06
CFO	0.234* 0.00	0.079* 0.00	0.035* 0.01	0.079* 0.00	0.103* 0.00	0.222* 0.00	-0.103* 0.00	1.000 .	-0.445* 0.00	-0.082* 0.00	0.067* 0.00	-0.014 0.33	0.055* 0.00	-0.050* 0.00
LossProb	-0.423* 0.00	-0.147* 0.00	-0.032* 0.02	0.008 0.56	-0.226* 0.00	-0.310* 0.00	0.085* 0.00	-0.523* 0.00	1.000 .	0.133* 0.00	-0.168* 0.00	-0.001 0.96	-0.073* 0.00	0.073* 0.00
STD_Sales	-0.133* 0.00	-0.020 0.15	-0.025 0.07	0.091* 0.00	-0.087* 0.00	-0.176* 0.00	-0.011 0.44	-0.077* 0.00	0.097* 0.00	1.000 .	-0.118* 0.00	0.015 0.28	-0.082* 0.00	-0.018 0.21
BSIZE	0.064* 0.00	0.409* 0.00	0.013 0.35	-0.066* 0.00	0.366* 0.00	0.582* 0.00	0.182* 0.00	0.088* 0.00	-0.180* 0.00	-0.108* 0.00	1.000 .	0.127* 0.00	0.228* 0.00	0.040* 0.00
INDEP	0.055* 0.00	0.209* 0.00	0.070* 0.00	-0.045* 0.00	0.169* 0.00	0.121* 0.00	0.010 0.47	-0.019 0.17	-0.002 0.86	0.019 0.17	0.084* 0.00	1.000 .	0.094* 0.00	0.102* 0.00
BIG4	-0.004* 0.78	0.096* 0.00	0.025 0.08	0.002 0.87	0.064* 0.00	0.307* 0.00	0.121* 0.00	0.043* 0.00	-0.079* 0.00	-0.070* 0.00	0.217* 0.00	0.081* 0.00	1.000 .	0.018 0.20
DFor	-0.045* 0.00	0.044* 0.00	-0.004 0.75	-0.012 0.40	0.060* 0.00	0.092* 0.00	-0.049* 0.00	-0.028* 0.05	0.051* 0.00	-0.034* 0.01	0.045* 0.00	0.102* 0.00	0.018 0.20	1.000 .

This table presents the correlation matrix for selected variables used in the analysis. The sample consists of 5,656 firm-year observations between 2004 and 2008. Person (Spearman) correlation coefficients are in the lower (upper) triangle. \* Significant at the 5% level.

#### 4.3.2 Univariate analysis

Table 4 compares the degree of financial reporting comparability for firms with different audit committee size and a different degree of financial and accounting expertise in audit committees respectively.

Panel A of Table 4 shows the results of *t*-test and Wilcoxon signed-rank test for firms with different size of audit committee respectively. In particular, firms are classified in two groups based on the median value of ACSIZE (1.099). G1 represents firms with a smaller audit committee (i.e.,  $ACSIZE \leq 1.099$ ), while G2 represents firms with a larger audit committee ( $ACSIZE > 1.099$ ). The results show that firms with a larger audit committee have a higher degree of financial reporting comparability. For example, the mean and median of CompAcctInd increase in ACSIZE, and the difference between G1 and G2 is statistically significant. The results indicate that audit committee size is positively associated with financial reporting comparability. This is consistent with the notion that larger audit committees have better monitoring performance, thus enhancing financial reporting quality (Karamanou and Vafeas 2005; Lin and Hwang 2010).

Panel B of Table 4 reports the results for firms with different degrees of audit committee expertise. Firms are classified in three groups based on ACEXP. In particular, G0 represents firms without any audit committee member having financial and accounting expertise (i.e.  $ACEXP=0$ ). G1 represents firms where less than half of its audit committee members have expertise (i.e.  $ACEXP > 0$  and  $ACEXP < 0.5$ ). Finally, G2 represents firms where more than or at least half of its committee members have financial and accounting expertise (i.e.  $ACEXP \geq 0.5$ ). The results show that firms with a higher degree of financial and accounting expertise in audit committees have a higher degree of financial reporting comparability. For example, the mean and median values of CompAcctInd for G2 are  $-2.900$

and  $-2.490$  respectively, significantly higher than those for G0 and G1. The results are consistent with the notion that having more audit committee members with financial and accounting expertise enhances the quality of financial information (Dhaliwal et al. 2010; Sharma and Iselin 2012).



**Table 4 Univariate Analysis**

Panel A: ACSIZE *t*-test

Mean

Two-sample	test	with	(0) vs (1)
Variables	G 0	G 1	Diff
CompAcctInd	-3.210	-2.920	-0.29***
Observations	3157	2399	

ACSIZE Wilcoxon signed-rank test

Median

Two-sample	test	with	(0) vs (1)
Variables	G 0	G 1	Chi-square
CompAcctInd	-2.840	-2.650	21.760***
Observations	3157	2399	

Panel B: ACEXP *t*-test

Mean

Two-sample	test	equal	with	(0) vs (1)	(0) vs (2)	(1) vs (2)
Variables	G 0	G 1	G 2	Diff	Diff	Diff
CompAcctInd	-3.560	-3.050	-2.900	-0.51***	-0.65***	-0.14***
Observations	927	2862	1770			

ACEXP Wilcoxon signed-rank test

Median

Two-sample	test	equal	with	(0) vs (1)	(0) vs (2)	(1) vs (2)
Variables	G 0	G 1	G 2	Chi-square	Chi-square	Chi-square
CompAcctInd	-3.210	-2.720	-2.490	74.762***	110.451***	11.989***
Observations	927	2862	1770			

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective.

Table 4 presents the *t*-test and Wilcoxon signed-rank test for ACSIZE and ACEXP respectively.

ACSIZE is classified in two groups. G 0 indicates ACSIZE≤1.099. G 1 indicates ACSIZE>1.099, where 1.099 is the median value of ACSIZE.

ACEXP is classified in three groups. G 0 indicates ACEXP=0. G 1 indicates ACEXP>0 and ACEXP<0.5.

G 2 indicates ACEXP≥0.5.

#### **4.4 Multivariate regression analysis**

This section reports the results of multivariate regression analysis, used to examine the hypotheses. This study hypothesises a positive relationship between audit committee characteristics (audit committee financial and accounting expertise and audit committee size) and financial reporting comparability. This study also investigates whether Big 4 auditors and the corporate governance environment moderate the relationship between audit committee characteristics and financial reporting comparability. To do so, variables regarding Big 4 auditors and board characteristics are introduced into the regression models.

##### *4.4.1 The relationship between audit committee characteristics and comparability*

Panel A, Table 5, reports the results of testing the relationship between audit committee characteristics and financial reporting comparability using Model 1. The results support H1a and H1b, indicating that financial reporting comparability is significantly positively associated with audit committee financial and accounting expertise and audit committee size. The coefficients on ACSIZE and ACEXP are significant and positive in all specifications at the 1% level. When audit committee characteristics are included in the regression separately (Column (1) and (2)), the estimated coefficients are 0.271 ( $t=3.28$ ) for ACSIZE and 0.570 ( $t=8.64$ ) for ACEXP. When combined ACSIZE with ACEXP (Column (3)), the coefficient of ACSIZE increases to 0.364 ( $t=4.39$ ), and the coefficient of ACEXP increases to 0.605 ( $t=9.07$ ). This indicates the monitoring ability of the audit committee for reporting comparability is stronger when a larger audit committee has more financial and accounting expertise. Because financial reporting comparability is considered as an indicator of financial reporting quality in this study, the results in Panel A, Table 5, are also consistent with prior literature that audit committees with more financial and accounting expertise and larger size lead to higher financial reporting quality (Abbott et al. 2004; Cohen et al. 2014).

Most control variables have significant coefficients and consistent signs with the literature. Sales growth (SG) and firm age (FIRM\_AGE) are positively associated with comparability, suggesting that older firms have better and stronger corporate governance mechanisms than younger firms, resulting in higher financial reporting quality (Archambeault et al. 2008; Sharma and Iselin 2012). The results also confirm Biddle et al. (2009), that firms with higher sales growth have higher financial reporting quality than firms with lower sales growth.

Leverage (LEV), probability of loss (LossProb), standard deviation of sales (STD\_Sales) and foreign currency (DFor) are all found to be negatively related to comparability. The results are consistent with prior studies that firms with lower leverage and probability of loss have higher financial reporting quality than firms with higher leverage and probability of loss (Beatty et al. 2002; Ahmed and Duellman 2007). The negative association between standard deviation of sales (STD\_Sales) and comparability is consistent with the results reported that a greater variation in sales leads to lower degree of comparability. Surprisingly, firm size (SIZETA) is negatively related to financial statement comparability. It is, however, in accordance with the perspective that larger firms are more likely to engage in earnings management to avoid reporting earnings decreases (Davidson et al. 2005).

However, statistical inferences and interpretation based on the magnitude of regression coefficients are difficult because the magnitude of an ordinary regression coefficient depends on the scale of both the dependent variables and the independent variables. To identify and interpret the economic significance of audit committee characteristics in determining financial reporting comparability, this study uses standardised regressions (Bennett et al. 2003; Ferreira and Matos 2008). In particular, this study standardises both the independent

and dependent variables, such that all variables have the same mean (zero) and standard deviation (one), so that all estimated coefficients based on standardised regressions are presented in comparable units. The interpretation of such standardised regression coefficients is the expected standard deviation change in the dependent variable given a one standard deviation change in the independent variable.

Panel B of Table 5 reports the results of standardised regression. When both ACSIZE and ACEXP are included as the regressors (Column (3)), the coefficients are 0.056 ( $t=4.39$ ) for ACSIZE and 0.111 ( $t=9.07$ ) for ACEXP. These results suggest that the one standard deviation increase in the size of the audit committee is associated with a 4.2% increase in the degree of financial reporting comparability. The impact of ACEXP is relatively higher than ACSIZE, as one standard deviation increase of ACEXP is associated with an 11.1% increase in reporting comparability. It is important to note that the magnitude of the estimated coefficient of ACEXP is larger than all independent variables except the probability of loss (LossProb) and volatility of sales (STD\_Sales). This suggests that audit committee expertise is one of the major determinants of financial reporting comparability. On the other hand, the magnitude of the coefficient for ACSIZE is comparable to other potential determinants of comparability, such as sales growth, firm age, firm size and leverage, indicating that audit committee size is also an important determinant.

**Table 5 Audit Committee Characteristics and Financial Reporting Comparability**

Panel A				
VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd
Constant	?	-2.375*** (-13.24)	-2.430*** (-13.97)	-2.679*** (-14.67)
ACSIZE	+	0.271*** (3.28)		0.364*** (4.39)
ACEXP	+		0.570*** (8.64)	0.605*** (9.07)
SG	+	0.382*** (3.91)	0.421*** (4.30)	0.425*** (4.34)
FIRM_AGE	+	0.088*** (2.87)	0.108*** (3.58)	0.088*** (2.92)
SIZETA	+/-	-0.085*** (-5.04)	-0.077*** (-4.69)	-0.093*** (-5.52)
LEV	-	-0.732*** (-5.34)	-0.752*** (-5.52)	-0.756*** (-5.55)
CFO	+	0.144 (0.45)	0.081 (0.25)	0.091 (0.28)
LossProb	-	-2.209*** (-21.37)	-2.212*** (-21.49)	-2.199*** (-21.49)
STD_Sales	-	-1.628*** (-7.27)	-1.580*** (-7.11)	-1.616*** (-7.26)
DFor	-	-0.093** (-2.21)	-0.089** (-2.14)	-0.092** (-2.20)
Observations		5,113	5,113	5,113
Adj. R <sup>2</sup>		0.205	0.214	0.217

**Table 5 (continued)**

Panel B				
VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd
Constant	?	0.106*** (7.34)	0.048*** (2.93)	0.042** (2.53)
ACSIZE	+	0.042*** (3.28)		0.056*** (4.39)
ACEXP	+		0.104*** (8.64)	0.111*** (9.07)
SG	+	0.058*** (3.91)	0.063*** (4.30)	0.064*** (4.34)
FIRM_AGE	+	0.050*** (2.87)	0.061*** (3.58)	0.051*** (2.92)
SIZETA	+/-	-0.078*** (-5.04)	-0.071*** (-4.69)	-0.085*** (-5.52)
LEV	-	-0.086*** (-5.34)	-0.089*** (-5.52)	-0.089*** (-5.55)
CFO	+	0.008 (0.45)	0.005 (0.25)	0.005 (0.28)
LossProb	-	-0.407*** (-21.37)	-0.407*** (-21.49)	-0.405*** (-21.49)
STD_Sales	-	-0.126*** (-7.27)	-0.122*** (-7.11)	-0.125*** (-7.26)
DFor	-	-0.027** (-2.21)	-0.026** (-2.14)	-0.026** (-2.20)
Observations		5,113	5,113	5,113
Adj. R <sup>2</sup>		0.205	0.214	0.217

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective. *t*-statistics are in parentheses.

Table 5 reports on regression that examines the direct association between audit committee expertise(ACEXP), audit committee size (ACSIZE) and comparability, using Model 1:

$$\text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where ACC is audit committee characteristics variables, including ACEXP which is measured based on percentage of audit committee members with financial expertise, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAcctInd is the mean of CompAcct for firm *i* for all firms in the firm *i*'s industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm *i*'s earnings on firm *i*'s return using the estimated coefficients for firms *i* and *j*, respectively. It is calculated from each firm *i* – firm *j* pair ( $i \neq j$ ),  $j=1$  to *J* firms in the same two-digit SIC industry as firm *i*; Control variables are defined in Table 1.

#### *4.4.2 Audit committee characteristics and comparability: The role of Big 4 auditors*

Having established the positive association between audit committee size and expertise, and the degree of financial reporting comparability, this study now examines whether the presence of a Big 4 auditor would alter the positive association. In particular, Model 2 is estimated, which extends Model 1 by incorporating the interaction terms between BIG4 and audit committee characteristics. Table 6 presents results for Model 2.

For audit committee size, the interaction term between ACSIZE and BIG4 is found to be positive but statistically insignificant, while the coefficient on ACSIZE becomes negative and insignificant. On the other hand, the coefficient on ACEXP continues to be positive and significant (coefficient=0.979;  $t=5.76$ ) but the interaction term between ACEXP and BIG4 is significantly negative (coefficient=-0.404;  $t=-2.21$ ). This indicates that, for firms that are clients of Big 4 audit firms, the monitoring role of an audit committee with financial and accounting expertise becomes weaker, especially on the production of financial reporting comparability. This supports H2a and is consistent with the notion that Big 4 auditors are less likely to make changes to their unique set of auditing rules and procedures, so as to meet any particular demand from their clients, compared with non-Big 4 auditors. As a result, the presence of Big 4 auditors moderates the positive association between audit committee expertise and financial reporting comparability.

The negative relationship between BIG4 and accounting comparability also supports the above finding. For example, the estimated coefficient on BIG4 in Column (3) is negative (coefficient=-0.300), although not statistically significant. The lack of statistical significance is largely due to the fact that most of the sample firms in this study hire a Big 4 auditor (about 90%). Therefore, the results indicate that hiring Big 4 auditors is not necessary to lead to a higher degree of financial reporting comparability. This is in line with Francis et

al. (2014), that firms tend to have lower degree of financial reporting comparability when they use different Big 4 auditors from their industry peers.

In summary, the results in Table 6 support H2a. The presence of Big 4 auditors moderates the positive association between audit committee expertise and financial reporting comparability. In addition, the positive relationship between audit committee size and comparability also becomes weaker when the effect of Big 4 auditors is considered in the analysis.



**Table 6 Audit Committee Characteristics and Financial Reporting Comparability:  
The Role of Big 4 Auditors**

VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd
Constant	?	-1.957*** (-4.76)	-2.520*** (-12.94)	-2.430*** (-5.93)
ACSIZE	+	-0.024 (-0.07)		0.095 (0.31)
BIG4	+/-	-0.477 (-1.24)	0.058 (0.52)	-0.300 (-0.78)
ACSIZE × BIG4	+/-	0.323 (0.98)		0.295 (0.91)
ACEXP	+		0.970*** (5.64)	0.979*** (5.76)
ACEXP × BIG4	+/-		-0.433** (-2.34)	-0.404** (-2.21)
SG	+	0.382*** (3.90)	0.421*** (4.30)	0.426*** (4.35)
FIRM_AGE	+	0.084*** (2.74)	0.106*** (3.52)	0.086*** (2.83)
SIZETA	+/-	-0.080*** (-4.57)	-0.071*** (-4.15)	-0.088*** (-5.02)
LEV	-	-0.724*** (-5.29)	-0.745*** (-5.47)	-0.746*** (-5.48)
CFO	+	0.138 (0.43)	0.067 (0.21)	0.078 (0.24)
LossProb	-	-2.209*** (-21.37)	-2.212*** (-21.48)	-2.198*** (-21.48)
STD_Sales	-	-1.643*** (-7.34)	-1.590*** (-7.16)	-1.635*** (-7.35)
DFor	-	-0.093** (-2.21)	-0.090** (-2.15)	-0.092** (-2.20)
Observations		5,111	5,111	5,111
Adj. R <sup>2</sup>		0.205	0.215	0.217

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective. *t*-statistics are in parentheses.

Table 6 reports on regression that examines the impact of Big 4 auditors on direct association between audit committee expertise(ACEXP), audit committee size (ACSIZE) and comparability, using Model 2:

$$\text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \beta_2 * \text{BIG4}_i + \beta_3 * \text{BIG4}_i * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where ACC is audit committee characteristics variables, including ACEXP which is measured based on percentage of audit committee members with financial expertise, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAccInd is the mean of CompAcct for firm I for all firms in the firm i's industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm i's earnings on firm i's return using the estimated coefficients for firms I and j, respectively. It is calculated from each firm I – firm j pair ( $I \neq j$ ),  $j=1$  to  $J$  firms in the same two-digit SIC industry as firm I;

Big 4 is the indicator variable equal to 1 if the auditor is one of the Big 4 auditing firms, and 0 otherwise  
Control variables are defined in Table 1.

#### *4.4.3 Audit committee characteristics and financial reporting comparability: The role of the corporate governance environment*

Prior studies document that a better corporate governance environment facilitates the discipline role of the audit committee. Accordingly, this study examines whether the positive relationship between audit committee characteristics and comparability varies across firms with different corporate governance environments. In particular, an interaction term between the corporate governance variable and audit committee characteristics is included in Model 3. Two corporate governance variables in relation to board characteristics are considered: board independence (INDEP) and board size (BSIZE). Panel A of Table 7 presents the regression results for board independence, using Model 3. The coefficients on board independence (INDEP) are significantly positive in all specifications, confirming a positive association between board independence and financial reporting quality (Klein 2002; Krishnan 2005). Importantly, the coefficients on the interaction term between audit committee characteristics and board independence are all negative and significant. For example, when ACSIZE is included in Column (1), the coefficient on ACSIZE×INDEP is negative (−1.033) and significant ( $t=-1.82$ ). Similarly, the coefficient on ACEXP×INDEP in Column (2) is negative (−1.022) and significant ( $t=-2.00$ ).

Overall, the results in Panel A of Table 7 reject H2b and suggest that a highly independent board mitigates the association between audit committee characteristics and financial reporting comparability. The monitoring ability of the audit committee in the production of comparable financial information becomes weaker in firms with a highly independent board. The above results are also consistent with prior studies that argue that a highly independent board worsens the corporate governance environment because dependent directors will optimally improve their monitoring effort *ex ante*, if they hold equity in the firm (Kumar and Sivaramakrishnan 2008; Laux 2008).

The results for board size are presented in Panel B of Table 7. The coefficients on board size (BSIZE) vary in different specifications of regression models. This, however, confirms the mixed evidence on the association between board size and corporate governance.

The coefficients on the interaction term between board size and ACESIZE are insignificant in all specifications, suggesting that board size has no impact on the association between audit committee size and reporting comparability. However, the coefficients on the interaction term between board size and ACEXP are consistently negative and significant. For example, when both ACSIZE and ACEXP are included (Column (6)), the coefficient on ACEXP×BSIZE is negative (−0.051) and significant ( $t=-1.67$ ). This suggests that the relationship between audit committee financial and accounting expertise and financial statement comparability is weaker when firms have larger boards of directors.

Overall, the results in Panel B support H2c, indicating that the size of the board of directors moderates the association between audit committee expertise and financial reporting comparability. The results are consistent with prior studies that larger boards can be less effective monitors due to potential free-riding, poor communication and inefficiencies (Dechow et al. 1996; Bushman et al. 2004) and that financial reporting quality is negatively associated with board size (Vafeas 2005).

**Table 7 Audit Committee Characteristics and Financial Reporting Comparability: The Role of Corporate Governance Environment**

Panel A: Board independence					Panel B: Board size				
VARIABLES	Predicted signs	(1)	(2)	(3)	VARIABLES	Predicted signs	(4)	(5)	(6)
		CompAcctInd	CompAcctInd	CompAcctInd			CompAcctInd	CompAcctInd	CompAcctInd
Constant	?	-3.600*** (-6.31)	-3.024*** (-12.41)	-4.123*** (-6.68)	Constant	?	-2.178*** (-4.76)	-2.645*** (-12.85)	-2.686*** (-5.58)
ACSIZE	+	0.957** (2.20)		1.048** (2.40)	ACSIZE	+	0.089 (0.27)		0.206 (0.63)
INDEP	+/-	1.927*** (2.63)	1.031*** (3.97)	2.205*** (2.76)	BSIZE	+/-	-0.006 (-0.13)	0.045*** (2.72)	0.014 (0.27)
ACSIZE × INDEP	+/-	-1.033* (-1.82)		-1.029* (-1.80)	ACSIZE × BSIZE	+/-	0.017 (0.48)		0.014 (0.41)
ACEXP	+		1.286*** (3.36)	1.327*** (3.45)	ACEXP	+		1.036*** (3.77)	1.050*** (3.80)
ACEXP × INDEP	+/-		-1.022** (-2.00)	-1.039** (-2.02)	ACEXP × BSIZE	+/-		-0.053* (-1.74)	-0.051* (-1.67)
SG	+	0.395*** (4.05)	0.432*** (4.43)	0.433*** (4.44)	SG	+	0.391*** (3.99)	0.438*** (4.47)	0.436*** (4.45)
FIRM_AGE	+	0.075** (2.47)	0.090*** (2.99)	0.079*** (2.62)	FIRM_AGE	+	0.082*** (2.63)	0.098*** (3.19)	0.085*** (2.75)
SIZETA	-	-0.086*** (-5.14)	-0.082*** (-5.00)	-0.093*** (-5.53)	SIZETA	-	-0.095*** (-5.15)	-0.095*** (-5.16)	-0.101*** (-5.49)
LEV	-	-0.715*** (-5.25)	-0.733*** (-5.41)	-0.737*** (-5.44)	LEV	-	-0.729*** (-5.32)	-0.752*** (-5.52)	-0.752*** (-5.50)
CFO	+	0.179 (0.56)	0.121 (0.38)	0.132 (0.42)	CFO	+	0.160 (0.50)	0.105 (0.33)	0.104 (0.33)

**Table 7 (continued)**

Panel A: Board independence					Panel B: Board size				
VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd	VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd
LossProb	-	-2.220*** (-21.57)	-2.221*** (-21.67)	-2.206*** (-21.68)	LossProb	-	-2.210*** (-21.39)	-2.210*** (-21.51)	-2.199*** (-21.49)
STD_Sales	-	-1.660*** (-7.43)	-1.621*** (-7.33)	-1.641*** (-7.40)	STD_Sales	-	-1.626*** (-7.26)	-1.584*** (-7.13)	-1.618*** (-7.26)
DFor	-	-0.107** (-2.55)	-0.102** (-2.43)	-0.099** (-2.38)	DFor	-	-0.092** (-2.19)	-0.087** (-2.08)	-0.090** (-2.16)
Observations		5,113	5,113	5,113	Observations		5,113	5,113	5,113
Adj. R <sup>2</sup>		0.208	0.218	0.220	Adj. R <sup>2</sup>		0.205	0.215	0.217

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective.  
*t*-statistics are in parentheses.

Table 7 reports on regression that examines the impact of board characteristics on auditors on direct association between audit committee expertise(ACEXP), audit committee size (ACSIZE) and comparability, using Model 3:

$$\text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \beta_2 * \text{BDC}_i + \beta_3 * \text{BDC}_i * \text{ACC}_i + \gamma * \text{Controls}_i + \epsilon_i$$

where ACC is audit committee characteristics variables, including ACEXP which is measured based on percentage of audit committee members with financial expertise, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAccInd is the mean of CompAcct for firm I for all firms in the firm i's industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm i's earnings on firm i's return using the estimated coefficients for firms I and j, respectively. It is calculated from each firm I – firm j pair ( $I \neq j$ ),  $j=1$  to J firms in the same two-digit SIC industry as firm I;

BDC is board characteristics variables, including INDEP which measured based on proportion of non-executive board members who serve on the board, and BSIZE which measured based on the natural logarithm of the number of board members;

Control variables are defined in Table 1.

## 4.5 Robustness checks

In this section, this study considers the sensitivity of the results to a variety of alternative measures and estimation approaches. The robustness checks generate similar results to those presented above by showing almost identical patterns of statistical significance and signs in all checks. The robustness tests include the use of alternative comparability measures, alternative measures for financial and accounting expertise, and alternative regression models.

### 4.5.1 *Alternative comparability measures*

In the main analysis above, financial reporting comparability (*CompAcctInd*) is measured as the mean value of comparability for firm *i* against all firms in the same industry. However, the mean value is likely to be affected by possible extreme values in the distribution of the variable, and the median value is unlikely to be contaminated. Following De Franco et al. (2011), this study also uses an alternative measure of reporting comparability, defined as the median value of comparability for firm *i* against all firms in the same industry (*CompAcctIndmd*). To test for robustness, the above analysis is repeated by using *CompAcctIndmd* as the dependent variable instead.

The results are reported in Table 8. When both *ACSIZE* and *ACEXP* are included (Column 3), the coefficients of *ACSIZE* and *ACEXP* are both positive (0.188 for *ACSIZE* and 0.348 for *ACEXP*), with a significant *t*-value of 1.75 and 3.99 respectively. Therefore, the results in Table 8 remain similar to those reported above, reconfirming the previous findings.

**Table 8 Robustness Check using Alternative Comparability Measures**

VARIABLES	Predicted signs	(1) CompAcctIndmd	(2) CompAcctIndmd	(3) CompAcctIndmd
Constant	?	-1.279*** (-6.26)	-1.324*** (-6.73)	-1.452*** (-6.88)
ACSIZE	+	0.134 (1.27)		0.188* (1.75)
ACEXP	+		0.330*** (3.86)	0.348*** (3.99)
SG	+	0.487*** (2.82)	0.507*** (2.92)	0.511*** (2.96)
FIRM_AGE	+	0.127*** (3.41)	0.137*** (3.66)	0.127*** (3.42)
SIZETA	+/-	-0.070*** (-3.08)	-0.066*** (-3.03)	-0.074*** (-3.27)
LEV	-	-1.243*** (-6.42)	-1.256*** (-6.50)	-1.258*** (-6.52)
CFO	+	0.533 (1.28)	0.502 (1.21)	0.505 (1.22)
LossProb	-	-3.221*** (-22.26)	-3.219*** (-22.36)	-3.212*** (-22.32)
STD_Sales	-	-1.828*** (-6.44)	-1.799*** (-6.40)	-1.816*** (-6.43)
DFor	-	-0.103** (-1.97)	-0.102* (-1.95)	-0.103** (-1.96)
Observations		5,256	5,256	5,256
Adj. R <sup>2</sup>		0.262	0.264	0.264

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective. *t*-statistics are in parentheses.

Table 8 reports on regression that examines the direct association between audit committee expertise(ACEXP), audit committee size (ACSIZE) and comparability, using:

$$\text{CompAcctIndmd}_i = \alpha + \beta_1 * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where ACC is audit committee characteristics variables, including ACEXP which is measured based on percentage of audit committee members with financial expertise, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAccIndmd is the median of CompAcct for firm *i* for all firms in the firm *i*'s industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm *i*'s earnings on firm *i*'s return using the estimated coefficients for firms *i* and *j*, respectively. It is calculated from each firm *i* – firm *j* pair ( $i \neq j$ ),  $j=1$  to *J* firms in the same two-digit SIC industry as firm *i*; Control variables are defined in Table 1.

#### *4.5.2 Alternative measures for financial and accounting expertise*

This study also examines the robustness of the results to alternative measures of audit committee financial expertise. In particular, this study follows Cohen et al. (2014), and considers the following measures of audit committee expertise: (1) an indicator variable equal to 1 if the audit committee has at least one financial and accounting expert, and zero otherwise (ACFIN); (2) an indicator variable equal to 1 if the audit committee has more than one financial and accounting experts, and zero otherwise (ACFINM). The results using alternative measures of audit committee expertise are reported in Table 9.

The results in Column (1) suggest that the presence of at least one financial and accounting expert in the audit committee is associated with a higher degree of reporting comparability. The estimated coefficient on ACFIN is 0.588, with a significant  $t$ -statistic of 10.33. Adding more financial and accounting expertise to the audit committee is also found to be positively associated with reporting comparability. The estimated coefficient on ACFINM is 0.118 and statistically significant ( $t=2.68$ ). The coefficients on ACFIN and ACFINM continue to be positive and significant at the 5% significance level, even after controlling for the size of audit committee.

In summary, the results in Table 9 are consistent with the previous findings reported in Table 5, indicating that the degree of comparability is positively related to audit committee financial and accounting expertise and audit committee size.



**Table 9 Robustness Check using Alternative Measures for Financial and Accounting Expertise**

VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd	(4) CompAcctInd	(5) CompAcctInd	(6) CompAcctInd
Constant	?	-2.782*** (-15.71)	-2.906*** (-15.82)	-2.190*** (-12.75)	-2.338*** (-13.06)	-2.732*** (-15.45)	-2.849*** (-15.51)
ACFIN	+	0.588*** (10.33)	0.579*** (10.16)			0.541*** (9.13)	0.536*** (9.03)
ACSIZE	+		0.204** (2.49)		0.226*** (2.74)		0.189** (2.30)
ACFINM	+			0.257*** (6.03)	0.247*** (5.77)	0.118*** (2.68)	0.111** (2.51)
SG	+	0.425*** (4.37)	0.426*** (4.37)	0.409*** (4.17)	0.409*** (4.17)	0.435*** (4.46)	0.435*** (4.46)
FIRM_AGE	+	0.118*** (3.96)	0.107*** (3.55)	0.095*** (3.16)	0.083*** (2.74)	0.113*** (3.82)	0.103*** (3.45)
SIZETA	+/-	-0.073*** (-4.49)	-0.082*** (-4.90)	-0.081*** (-4.92)	-0.091*** (-5.38)	-0.077*** (-4.69)	-0.085*** (-5.06)
LEV	-	-0.745*** (-5.45)	-0.746*** (-5.46)	-0.741*** (-5.44)	-0.743*** (-5.45)	-0.749*** (-5.49)	-0.750*** (-5.50)
CFO	+	0.134 (0.42)	0.141 (0.44)	0.096 (0.30)	0.105 (0.33)	0.116 (0.36)	0.124 (0.39)

**Table 9 (continued)**

VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd	(4) CompAcctInd	(5) CompAcctInd	(6) CompAcctInd
LossProb	-	-2.195*** (-21.54)	-2.188*** (-21.54)	-2.220*** (-21.48)	-2.212*** (-21.48)	-2.197*** (-21.58)	-2.191*** (-21.58)
STD_Sales	-	-1.593*** (-7.20)	-1.614*** (-7.28)	-1.585*** (-7.10)	-1.609*** (-7.20)	-1.586*** (-7.17)	-1.606*** (-7.25)
DFor	-	-0.092** (-2.21)	-0.093** (-2.24)	-0.088** (-2.10)	-0.090** (-2.15)	-0.090** (-2.18)	-0.092** (-2.21)
Observations		5,113	5,113	5,113	5,113	5,113	5,113
Adj. R <sup>2</sup>		0.222	0.222	0.209	0.209	0.223	0.223

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective.

*t*-statistics are in parentheses.

Table 9 reports on regression that examines the direct association between audit committee expertise (ACFIN and ACFINM), audit committee size (ACSIZE) and comparability, using:

$$\text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where ACC is audit committee characteristics variables, including ACFIN which is an indicator variable equal to 1 if the audit committee has at least one financial expert, ACFINM which is an indicator variable equal to 1 if the audit committee has more than one financial experts, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAccIndmd is the median of CompAcct for firm I for all firms in the firm i's industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm i's earnings on firm i's return using the estimated coefficients for firms I and j, respectively. It is calculated from each firm i – firm j pair ( $i \neq j$ ),  $j=1$  to J firms in the same two-digit SIC industry as firm i;

Control variables are defined in Table 1.

#### *4.5.3 Different regression models*

This study also examines the robustness of the results using different estimation techniques, as in Vafeas (2005) and Krishnan et al. (2011). First, the two-way clustering approach is employed to calculate the robust  $t$ -statistics. In particular, the  $t$ -statistics in parentheses are calculated using standard errors corrected for both clustering by firm and by fiscal year (Petersen 2009). In Table 10, all results are qualitatively similar to the results reported in Table 5. For restricted estimates (Columns (1) and (2)), the coefficients are 0.271 ( $t=2.14$ ) for ACSIZE and 0.570 ( $t=1.85$ ) for ACEXP. When both ACSIZE and ACEXP are included (Column (3)), the coefficients are 0.364 ( $t=2.45$ ) for ACSIZE and 0.605 ( $t=1.94$ ) for ACEXP. The results confirm that both audit committee size and audit committee financial and accounting expertise are positively related to comparability.

**Table 10 Robustness Check using Two-Way Clustering Approach**

VARIABLES	Predicted signs	(1) CompAcctInd	(2) CompAcctInd	(3) CompAcctInd
Constant	?	-2.375*** (-6.25)	-2.430*** (-5.62)	-2.679*** (-5.53)
ACSIZE	+	0.271** (2.14)		0.364** (2.45)
ACEXP	+		0.570* (1.85)	0.605* (1.94)
SG	+	0.382** (1.98)	0.421** (2.16)	0.425** (2.21)
FIRM_AGE	+	0.088** (1.96)	0.108** (2.08)	0.088* (1.85)
SIZETA	+/-	-0.085*** (-3.13)	-0.077*** (-3.33)	-0.093*** (-3.51)
LEV	-	-0.732** (-2.41)	-0.752** (-2.57)	-0.756** (-2.57)
CFO	+	0.144 (0.45)	0.081 (0.25)	0.091 (0.28)
LossProb	-	-2.209*** (-12.55)	-2.212*** (-12.77)	-2.199*** (-12.92)
STD_Sales	-	-1.628*** (-3.52)	-1.580*** (-3.40)	-1.616*** (-3.48)
DFor	-	-0.093* (-1.76)	-0.089* (-1.69)	-0.092* (-1.74)
Observations		5,113	5,113	5,113
Adj. R2		0.205	0.214	0.217

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective. *t*-statistics are in parentheses.

Table 10 reports on regression that examines the direct association between audit committee expertise(ACEXP), audit committee size (ACSIZE) and comparability, using two-ways clustering (by firm and fiscal year):

$$\text{CompAcctInd}_i = \alpha + \beta_1 * \text{ACC}_i + \gamma * \text{Controls}_i + \varepsilon_i$$

where ACC is audit committee characteristics variables, including ACEXP which is measured based on percentage of audit committee members with financial expertise, and ACSIZE which is measured based on the natural logarithm of the number of directors in audit committee;

CompAcctInd is the mean of CompAcct for firm *i* for all firms in the firm *i*'s industry;

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm *i*'s earnings on firm *i*'s return using the estimated coefficients for firms *i* and *j*, respectively. It is calculated from each firm *i* – firm *j* pair (*i* ≠ *j*), *j*=1 to *J* firms in the same two-digit SIC industry as firm *i*;

Control variables are defined in Table 1.

Second, this study also employs the following change model, where all the dependent and independent variables take the first difference.

$$\Delta \text{CompAcctInd}_i = \alpha + \beta_1 * \Delta \text{ACC}_i + \gamma * \Delta \text{Controls}_i + \varepsilon_i$$

where  $\Delta \text{CompAcctInd}_i$  = the change of financial reporting comparability from year t-1 to year t;

$\Delta \text{ACC}_i$  = the change of audit committee characteristics variable, representing either the change of audit committee size ( $\Delta \text{ACSIZE}$ ) or the change of audit committee expertise ( $\Delta \text{ACEXP}$ ) from year t-1 to year t;

$\Delta \text{Controls}_i$  = the change of control variables from year t-1 to year t.

The results in Table 11 show that the change of audit committee expertise ( $\Delta \text{ACEXP}$ ) is positively and significantly associated with the change of financial reporting comparability (coefficient=0.387;  $t=6.21$ ). However, the coefficients on the change of audit committee size ( $\Delta \text{ACSIZE}$ ) are not statistically significant. This confirms the results of standardised regression in Table 5 that audit committee financial and accounting expertise is one of the major determinants of financial reporting comparability, while audit committee size is less important.

**Table 11 Robustness Check using Change Model**

VARIABLES	Predicted signs	(1) $\Delta\text{CompAcctInd}$	(2) $\Delta\text{CompAcctInd}$	(3) $\Delta\text{CompAcctInd}$
Constant	?	0.015 (0.59)	-0.018 (-0.66)	-0.018 (-0.67)
$\Delta\text{ACSIZE}$	+	0.021 (0.31)		0.074 (1.10)
$\Delta\text{ACEXP}$	+		0.379*** (6.04)	0.387*** (6.21)
$\Delta\text{SG}$	+	-0.007 (-0.10)	-0.010 (-0.14)	-0.009 (-0.13)
$\Delta\text{FIRM\_AGE}$	+	0.012 (0.05)	0.024 (0.10)	0.023 (0.10)
$\Delta\text{SIZETA}$	+/-	1.349*** (10.30)	1.343*** (10.35)	1.339*** (10.31)
$\Delta\text{LEV}$	-	-1.922*** (-5.83)	-1.876*** (-5.67)	-1.879*** (-5.68)
$\Delta\text{CFO}$	+	0.152 (0.48)	0.165 (0.52)	0.161 (0.50)
$\Delta\text{LossProb}$	-	-2.123*** (-10.95)	-2.148*** (-11.12)	-2.149*** (-11.13)
$\Delta\text{STD\_Sales}$	-	-2.236*** (-6.12)	-2.165*** (-5.97)	-2.164*** (-5.96)
$\Delta\text{DFor}$	-	-0.044 (-0.78)	-0.045 (-0.80)	-0.044 (-0.78)
Observations		4,064	4,064	4,064
Adj. R2		0.158	0.165	0.165

\*, \*\*, \*\*\*Denote significance at the 10 percent, 5 percent, and 1 percent levels (two-tailed), respective. *t*-statistics are in parentheses.

Table 11 reports on regression that examines the direct association between change of audit committee expertise(ACEXP), change audit of committee size (ACSIZE) and change of comparability, using:

$$\Delta\text{CompAcctInd}_i = \alpha + \beta_1 * \Delta\text{ACC}_i + \gamma * \Delta\text{Controls}_i + \varepsilon_i$$

where  $\Delta\text{CompAcctInd}_i$  = the change of comparability;

$\Delta\text{ACC}_i$  = the change of audit committee characteristics variables, which contain the change of audit committee size (  $\Delta\text{ACSIZE}$ ) and the change of audit committee expertise ( $\Delta\text{ACEXP}$ .);

$\Delta\text{Controls}_i$  = the change of control variables.

CompAcct is measured based on the absolute value of the difference of the predicted value of a regression of firm *i*'s earnings on firm *i*'s return using the estimated coefficients for firms *I* and *j*, respectively. It is calculated from each firm *i* – firm *j* pair (*i* ≠ *j*), *j*=1 to *J* firms in the same two-digit SIC industry as firm *i*;

Control variables are defined in Table 1.

## **CHAPTER FIVE**

### **CONCLUSION**

#### **5.1 Introduction**

This study examines the association between audit committee characteristics and financial reporting comparability in US firms. Section 5.2 summarises the findings. Section 5.3 discusses the implications of this study. Finally, Section 5.4 discusses the limitations of this study and future research opportunities.

#### **5.2 Summary of results**

Financial reporting comparability, which is one of the key qualitative characteristics in the accounting conceptual framework, enhances the usefulness and faithfulness of accounting information. This study examines whether the audit committee within a firm plays an oversight role in determining the degree of financial reporting comparability.

The overall results of this study suggest that there is a significant positive association between audit committee characteristics and financial reporting comparability. In particular, the results from standardised regressions show that the effect of audit committee financial and accounting expertise on financial statement comparability is larger than that for audit committee size. Audit committee financial and accounting expertise contributes to financial reporting comparability beyond the positive effects of audit committee size, and serves as one of the major determinants of reporting comparability. In addition, the results of the standardised regression indicate that audit committee size is also an important determinant of financial reporting comparability. The findings of this study are consistent with the perspective that audit committees with more financial and accounting expertise and larger

size have better monitoring ability in financial reporting, thereby leading to financial reporting comparability (Abbott et al. 2004; Cohen et al. 2014). The positive relationship between audit committee characteristics and financial reporting comparability is confirmed by a battery of robustness checks.

This study also examines the role of Big 4 auditors and the corporate governance environment on the relationship between audit committee characteristics and financial reporting comparability. The results show that the presence of Big 4 auditors moderates that positive relationship between financial reporting comparability and audit committee characteristics. It is because Big 4 auditors have unique sets of working rules and procedures to standardise accounting practices (Francis et al. 2014). Therefore, they are less likely to modify these standardised procedures to meet any particular demand (such as more comparable financial information) from their clients, compared with non-Big 4 auditors.

This study uses board independence and board size as proxies for corporate governance mechanisms. This study finds that highly independent boards and larger boards of directors lead to a weaker association between audit committee characteristics and financial reporting comparability. One explanation for these results is that a highly independent board actually results in a worse corporate governance environment, because directors will optimally improve their monitoring effort *ex ante* if they hold equity in the firm, thus enhancing the corporate governance environment (Kumar and Sivaramakrishnan 2008; Laux 2008). Another explanation is that a larger board leads to performance declines because of process losses, diffusion of responsibility and ineffective decision making (Bushman et al. 2004; Vafeas 2005; Krishnan and Lee 2009).



### **5.3 Implications**

The results of this study have a number of implications. First, they provide the original empirical evidence that audit committee financial and accounting expertise and audit committee size have a significant effect on the degree of financial reporting comparability. In particular, the results demonstrate that impacts of audit committee financial and accounting expertise are relatively higher than audit committee size on the degree of comparability. Therefore, the findings of this study enhance our understanding of the interaction among audit committee financial and accounting expertise, audit committee size and financial reporting outcomes. In addition, this study considers impacts of the presence of Big 4 auditors and the nature of the corporate governance environment on the role of audit committee characteristics in determining the degree of financial reporting comparability. The findings of this study provide empirical evidence about how the external economic agents (e.g. Big 4 auditors) and corporate governance mechanisms interact with the audit committee in shaping financial reporting comparability.

Second, the findings of this study complement prior research, providing new empirical evidence regarding the monitoring role of the audit committee in strengthening financial reporting quality. Consistent with prior studies, the results provide empirical evidence that the monitoring role of the audit committee can be enhanced when the audit committee has more members with financial and accounting expertise and is larger. This study uses financial reporting comparability as a unique indicator of financial reporting quality, which has not been previously investigated in this context. It has important implications for future research because future studies can employ reporting comparability as the indicator for financial reporting quality in related settings.

Finally, this study provides additional insights into the current debate between principles-based standards and rules-based standards. The research findings suggest that audit committee characteristics can affect the comparability when accounting standards are rules-based such as GAAP. The results of this study also have implications on countries outside the United States that have adopted principles-based accounting standards such as IFRS. When standards are principles-based, more professional judgement is required in the process of financial reporting. Therefore, economic agents, such as audit committees, can substantially affect the process of financial reporting in a principles-based environment. By contrast, less professional judgement is required where rules-based standards are adopted. Accordingly, the impacts of the audit committee on financial reporting comparability are relatively more significant in principle-based accounting standards. Overall, the results of this study have important implications for standard setters and regulators from countries using either principles-based or rules-based accounting standards.

#### **5.4 Limitations and future research opportunities**

This study has two limitations that should be addressed in future research. First, this study focuses on the role of audit committee represented by audit committee size and financial and accounting expertise in determining the degree of financial reporting comparability in U.S. firms. However, the fundamental and first order question with respect to the audit committee is whether the presence of an audit committee affects the production of financial information comparability. Unfortunately, this question cannot be answered by examining the U.S., because it is compulsory for U.S. listed firms to establish an audit committee. In addition, several different aspects of audit committee cannot be examined due to the regulatory requirement or the availability of data. For example, all listed firms in U.S. are required to have audit committees consisting of only independent directors. Accordingly, the

examination of the association between audit committee independence and financial reporting comparability is not feasible with the U.S. data.

Second, this study critically relies on the comparability measure developed by De Franco et al. (2011). As discussed in Chapter 2, there are alternative measures of financial reporting comparability proposed and used in previous literature, although those measures are not widely adopted. One important question is whether the results in this study continue to hold when using alternative measures of financial reporting comparability. However, cautions should also be exercised because different measures of comparability may capture different aspects of financial statement comparability, and accordingly there is no appealing reason to expect that the results should remain unchanged for different measures.

The results in this study also suggest several opportunities for future research. This study is among the first to examine how economic agents within the firm (i.e. audit committees) determine the production of financial reporting comparability. There is a growing literature that attempts to investigate other factors beyond accounting standards that affect financial reporting outcomes, such as incentives of preparers and auditors, enforcement mechanisms, ownership structure, economic agents and institutional environments (Ball et al. 2003; Holthausen 2003; Leuz et al. 2003; Holthausen 2009). Along this line, future research could try to understand how country-specific governance and institutional environments affect financial reporting comparability. The answers to this question would require an examination using the global data across countries.

Another possible avenue is to examine another group of internal economic agents, managers. The ability of management is the key determinant for financial reporting quality. Superior managers are more knowledgeable of their business, thus resulting in better judgements and higher quality of financial reporting (Demerjian et al. 2013). Whether the

ability and equity incentives of management could be a major determinant of financial reporting comparability is also an important question for future research.

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### Appendix 1 : A Literature Review on the Association between Financial Reporting Quality and Audit Committee

Authors	Year, Journal	Sample /Sources	Sample year	Financial reporting quality measures	Audit committee Characteristics (reported sign)	Key argument	Key findings and comments
Klein	2002 JAE	692 publicly traded U.S. firms	1991-1993	Earnings management  Kasznik's (1999) matched-portfolio technique to adjust the firm's abnormal accrual	Independence (-)		A negative relation is found between audit committee independence and abnormal accruals. A negative relation is also found between board independence and abnormal accruals.
Bedard et al.	2004 AJPT	300 U.S. firms on Compustat	1996	Earnings management (Income-increasing and income-decreasing abnormal accruals)	Financial expertise (-), governance expertise (-), percentage of stock options held by nonrelated outside committee members (+)	Three main categories of factors that might affect their capacity in reducing earning management; the expertise of the members, and the independence and activity level of the committee.	Aggressive earnings management is negatively associated with the financial and governance expertise of audit committee members, with indicators of independence, and with the presence of a clear mandate defining the responsibilities of the committee.
Abbott et al.	2004 AJPT	88 U.S. firms Dow Jones	1991-1999	Likelihood of annual financial	Independence (-), Activity and Size (-),	Whether firms having audit committee	We find that the independence and activity level (our



		Interactive Database		reports restatements	Financial Expertise (-)	structures consistent with certain BRC recommendations were less likely to experience restatement.	proxy for audit committee diligence) of the audit committee exhibit a significant and negative association with the occurrence of restatement. We also document a significant negative association between an audit committee that includes at least one member with financial expertise and restatement
Farber	2005 TAR	87 firms identified by the SEC as fraudulently manipulating their financial statements	1982–2000	Fraudulently manipulating their financial statements	Outside members on the board (-), financial expertise (-), meeting frequency (-)	Weak corporate governance is associated with financial reporting fraud, but how the actions (improved audit committee) that fraud firms take to improve their weak governance after fraud detection and, how effectively these actions	Fraudulent firms have poor governance (low percentage of outside directors, less AC financial expertise, fewer AC meetings, small percentage of Big 4 audit partners and have CEOs who are also the chairpersons of the board of directors).

						restore investor trust.	
Vafeas	2005 CAR	U.S. firms that are listed in the 1995 Fortune 500 survey	1994-2000	Earnings quality (proxies: the likelihood that firms avoid an earnings decline and the likelihood that firms avoid a negative earnings surprise)	<p>Audit committee insiders (-), Meeting frequency(+), committee member experience in other committees is associated with fewer small earnings increases.</p> <p>Equity incentives increase, and length of board tenure decreases, earnings quality</p>	<p>Given that audit committees are the principal liaison between management and auditors and are primarily responsible for reporting on earnings quality to the board of directors, the author expects that their monitoring performance should partly determine the extent of earnings manipulation by managers. Moreover, the quality of the audit committee is fundamentally linked to the quality of the corporate board</p>	<p>The length of board tenure and the proportion of AC insiders are associated with lower earnings quality and AC meeting frequency is associated with higher earnings quality.</p> <p>Also finds that committee member experience in other audit committees is associated with fewer small earnings increases.</p>

						because all audit committee members are also members of the board, and are appointed by the board itself, while audit committee decisions have to be ratified by the board as a whole.	
Krishnan, and Visvanathan	2008 CAR	929 US firms/ Standard & Poor's (S&P) 500	2000-2002	Accounting conservatism  Ball and Shivakumar's 2005 asymmetric loss recognition test (conditional conservatism)	Accounting financial expertise (+) in strong corporate governance, (x) in weak corporate governance.  Non-accounting sand financial expertise (x) in all situations, supervisory financial expertise (x)	Do accounting financial experts enhance the quality of financial reporting more than non-accounting financial experts?	Audit committee's accounting financial expertise is positively associated with conservatism. Audit committee's financial experts are able to effectively perform their monitoring function and promote conservative accounting only when they are in boards that are characterized by strong governance.
Archambeault et al	2008 CAR	153 restatement and 153 non-restatement	1999-2002	Accounting restatement likelihood	Short-term stock option grants for audit committee members (+),	Short-term options may reduce oversight quality by causing audit	Finds a positive relationship between short-term and long-term stock option grants and the

		Companies/10-K Wizard database			long-term stock option grants for audit committee members (+)	committee members to focus heavily on short-term performance. Long-term stock options do not provide a strong incentive for audit committee members to monitor financial reporting effectively.	likelihood of financial reporting failures or accounting restatements.
Krishnan and Lee	2009 AJPT	802 US firms/ Fortune 1000 firms	2004	Potential litigation risk (summary measure of litigation score based on Rogers and Stocken (2005) model)	Demand for accounting financial experts (+) only in strong corporate governance firms	The monitoring benefits from accounting expertise, and hence the demand for such expertise, may vary across firms.	Firms with higher potential litigation risk are more likely to appoint accounting financial experts to their audit committees.
Dhaliwal et al.	2010 CAR	770 firms /COMPUSTAT and Board Analyst databases	2004–2006	Accruals quality	Accounting and non-accounting (finance and supervisory) expertise (+)  Additional presence of supervisory	Monitoring effectiveness of accounting experts is affected by (a) the personal characteristics of accounting experts and (b) the presence of	AC accounting experts, who are independent, hold fewer directorships and have lower tenure in their firms have a profound positive impact on accruals quality. Supervisory

					experts in ACs (x)	non-accounting financial experts in ACs.	experts failed in complementing AC accounting or finance experts to enhance accruals quality.
Carcello et al	2011 CAR	157 firms announcing such restatements by searching the LEXIS-NEXIS News Library and Form 8-K file	1999-2000	Restatements	Independence (-): Only CEO not involved director selection  Financial expertise (-): Only CEO not involved director selection	When the CEO is involved in the board selection process, there is a greater risk that a director appears independent without being independent in fact. Audit committee financial expertise will be less effective in these situations, because the expert is less likely to be independent in fact.	We find some evidence that the monitoring benefits of independence and expertise are found only when the CEO is not formally involved in selecting board members.
Krishnan et al.	2011 TAR	Russell 1000 companies	2003 and 2005	Accruals quality and discretionary accruals	Legal expertise (+) accounting-only expertise (+)	(1) Financial reporting quality can be associated with legal liability threats	Directors with legal backgrounds who serve on audit committees contribute

					legal expertise combined with accounting expertise (x)	and (2) Their legal backgrounds make them alert to legal liability threats	positively to financial reporting quality. No significant positive association between joint expertise and financial reporting quality. Legal and accounting expertise appear to play complementary roles in monitoring financial reporting.
Iselin and Sharma	2012 AJPT	893 annual restatement announcements from the General Accounting Office	2001 to 2007	Financial misstatements (e.g. the likelihood of earnings restatement)	Multiple-directorships (+) Tenure of independent audit committee members (+)	Directors with longer tenure have been linked to cronyism with the CEO and, consequently, ineffective monitoring. Service on multiple boards can provide directors with greater board and governance experience that can lead to more effective monitoring.	Significant positive association between financial misstatements and multiple-directorships in the post-SOX environment. independent audit committee members serving on multiple boards may be stretched too thinly to effectively perform their monitoring responsibilities.  A significant positive association

						longer tenure helps directors accumulate significant knowledge about the firm.	between the tenure of independent audit committee members and financial misstatements in the post-SOX environment, suggesting that directors with longer tenure may not exercise independent judgment.
Keune and Johnstone	2012 TAR	1,290 SAB 108 misstatements	2003 and 2006	The likelihood of audit committee allowing managers to waive material misstatements	Financial expertise (-)	The absence of bright-line criteria for assessing materiality	Audit committee characteristics, results reveal that audit committees with greater financial expertise are less likely to allow managers to waive material misstatements compared to audit committees with less expertise.
Bryan et al	2013 RAST	Risk Metrics	2003-2008	Earnings quality (informativeness, timely loss recognition, earnings)	Optimally choosing financial expertise with or without	Prior research has shown that if firms optimize their endogenous choices of an explanatory	We find no differences in earnings quality between firms optimally choosing an expert with or without

				<p>persistence, and accruals quality)</p>	<p>Accounting expertise (x)</p> <p>Optimally choosing financial expertise with accounting expert have stronger (+), compared with firms that choose (with/without accounting expertise) suboptimally.</p> <p>Suboptimally choosing financial expertise with accounting expertise (x).</p> <p>Definition of optimal and suboptimal: using the resulting inverse Mills ratio to determine whether a firm</p>	<p>variable (in this case, the type of expert), controlling for the exogenous determinants of the choice would result in no observable differences across the response variable (Demsetz and Lehn 1985; Himmelberg et al. 1999; Ittner and Larcker 2001).<sup>1</sup> When applied to financial expertise on the audit committee, therefore, the implications drawn from this line of literature suggest that allowing firms to optimally choose</p>	<p>accounting expertise, and others who argue that when firms optimize their choice (i.e., accounting expertise), there should be no difference across the characteristic (i.e., earnings quality) being examined. We do find, however, earnings quality is significantly higher for firms that optimally choose an accounting expert relative to firms that choose (with/without accounting expertise) suboptimally. Finally, firms suboptimally choosing an accounting expert exhibit no improvement, or even lower earnings quality, than firms that optimally choose no accounting expert.</p>
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					<p>optimally or suboptimally chooses an accounting expert or no accounting expert. By definition, firms that optimally choose to have, or not to have, an accounting expert on the audit committee exhibit a small magnitude of the inverse Mills ratio.</p>	<p>between financial experts with and without accounting expertise would likely result in no difference in earnings quality.<sup>2</sup></p>	
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Cohen et al.	2014 TAR	18,564/ BoardEx database	2001– 2007	Financial restatements and discretionary accruals)	Accounting expertise combined with Industry expertise (stronger-),  Supervisory financial expertise combined with industry expertise (stronger -)  Measure for industry expertise: AC member to have industry expertise if s/he is/was employed by another firm that has them same two-digit SIC code as the firm in which s/he now serves as an AC member.	Practitioners considers industry expertise is important on AC, though there is no theory support this perspective	Audit committee members who are both accounting and industry experts perform better than those with only accounting expertise. We also find that in certain instances, supervisory experts who are also industry experts perform better than supervisory experts alone. Overall, these results suggest that industry expertise, when combined with accounting expertise, can improve the effectiveness of the audit committee in monitoring the financial reporting process.
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