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# **Board Monitoring and Audit Fees: The Moderating Role of CEO/Chair Dual Roles**

Mohammad Jizi & Rabih Nehme

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## **Abstract**

**Purpose:** The impact of corporate governance on audit fees literature is lacking in the banking sector, which is subject to different regulations and reporting requirements to other sectors. The level and quality of external audit services are not only important to shareholders and customers, but also important for regulators' reputations and public confidence.

**Design:** Examining a sample of the US national commercial banks, this study fills the gap by empirically examining whether the attributes of internal corporate governance mechanisms, proxied by boards of directors and audit committee characteristics, are related to audit fees. We introduced two interaction variables to understand whether CEO/chair dual roles influence the relationships between board independence and audit fees on one hand and between the audit committee and audit fees on the other hand.

**Findings:** We find that audit fees are positively associated with board independence, board size, chief executive officer (CEO)/chair dual role, and audit committee financial experts. The results of the interaction variables indicate that boards with higher independence and more effective audit committees tend to demand higher audit quality, and consequently, pay higher audit fees to protect shareholders' interests from potential power abuse by CEOs who also chair boards.

**Originality:** The study contributes to the literature by providing extensive understanding of the influence on audit fees of the independence of the board of directors' and the effectiveness of the audit committees. We first examine the impact of each individual governance variable separately and then introduce two interaction variables. This study provides policymakers with insights into the existing relationships between audit fees and the banking sector governance structure.

**Keywords:** Audit fee, board of directors, audit committee, US banks.

## **Introduction**

The development of corporate governance and increasing attention on the role and effectiveness of board committees in general and the audit committee in particular are intended to enhance the quality of financial reporting and related audit services (Cohen, Krisnamoorthy & Wright, 2002; Turley & Zaman, 2007; Beasley, Carcello, Hermanson & Neal, 2009; Krishnan & Visvanathan, 2009). The quality of audit services is affected by auditors' ability to conduct the necessary audit procedures and techniques that help to identify failures in the firm accounting system and consequently, reporting freely on these failures (Collier & Gregory, 1996). An auditor's independence and unconstrained work is vital in this case (Collier & Gregory, 1996). Arguably, the effectiveness of boards of directors and audit committees is likely to protect auditors' independence and reduce the potential for providing inaccurate audit opinions on management policies (Zaman et al., 2011).

Global corporate governance codes summarize various principles, such as leadership, effectiveness, liability, remuneration, as well as relationships with shareholders. The board of directors is responsible to establish audit committees to co-operate with external auditors (Hay, Knechel, & Wong, 2006). Audit committees are considered an operating committee of the board of directors directly responsible to assign, compensate and have an oversight of external auditors (Tsacoumis et al., 2003).

The role of external auditors is often an issue of debate regarding the nature, accountability, as well as scope of tasks conducted by auditors (Nehme, Al Mutawa, & Jizi, 2016). One main finding in the literature shows that absence of the dual role of chief executive officer (CEO) and board chairperson may lead to a company's healthy performance and subsequently, lower audit fees.

Abbott and Parker (2000) argue that higher board independence and more effective audit committees assign higher-quality auditors. The researchers show that audit committee effectiveness play an important role in assigning industry-specialized auditors. In addition, they highlight that audit fees should be associated not only with the expertise factor, but also with an effectual company structure and corporate governance. Independent directors have more incentive than inside directors for monitoring as they care about the organization's reputational capital (Fama & Jensen, 1983). Having more independent directors reduces agency cost and leads to better reporting quality and smaller gap with external auditors (Uang, Citron, Sudarsanam, & Taffler, 2006).

Banks, if weakly governed, can impose extensive negative effects on an economy and society. The level and quality of external audit is not only important to shareholders and customers, but also important for regulators' reputations and public confidence. The current study contributes to the literature by examining a unique sample of active listed US national commercial banks in the period following the recent financial crisis. The importance of this sample is that banks were at the center of the financial crisis (Brunnermeier, 2009); and in contrast to non-financial institutions, are subject to different reporting requirements. Hence, audit firms are likely to charge banks differently. The banking sector is a vibrant sector for the economy and represents a considerable portion of market equity (Kanagaretnam, Krishnan, and Lobo, 2010). Auditing banks' complex transactions is likely to require more effort and the use of critical accounting estimates, which might increase audit fees. In our research, we provide further understanding on how audit fees are related to board and audit committee structure. In doing so, we focus on the literature on banking sector audit fees, which is an understudied area despite the economic importance of this sector (Fields, Fraser, & Wilkin, 2004; Kanagaretnam et al., 2010).

The study contributes to the literature by providing extensive understanding of the influence on audit fees of the independence of the board of directors' and the effectiveness of the audit committees. We first examine the impact of each individual governance variable separately and then introduce two interaction variables. The first interaction variable estimates the relationship between board independence and audit fees when the bank CEO chairs the board. The second interaction variable estimates the relationship between audit committee effectiveness and audit fees when the CEO chairs the board. To the best of our knowledge, this is a major differentiation of our study. Previous research examined the determinants of audit fees from the corporate governance angle; however, there is a gap in the literature on the effects of board independence and audit committees on audit quality when the dual role exists (John & Senbet, 1998; Cohen et al., 2002; Imhoff, 2003).

Given the recent financial crisis and governments' interventions and bail-out plans to avoid financial institutions from transferring a negative impact to the economy, our study is relevant and provides policymakers with insights into the existing relationships between audit fees and the banking sector governance structure. In this study, we examine the determinants of audit fees as a particular and measurable agency cost (Leventis, Weetman, & Caramanis, 2011). These determinants comprise two sets of variables—board characteristics and audit committee mechanisms—as well as introduce interaction variables between CEO/chair dual role and audit committee effectiveness and between CEO/chair dual role and board of directors' independence.

The remainder of the paper is organized as follows. Section 2 covers prior literature and the development of hypotheses. Then, the sample selection and examined models are illustrated in Section 3. Section 4 discusses the empirical results and Section 5 concludes.

## **Prior Literature and Hypothesis Development**

In reviewing previous research on audit fees, we notice that some studies analyze board of directors' mechanisms against audit fees (O'Sullivan, 2000; Carcello, Hermanson, Neal, & Riley, 2002; Larcker & Richardson, 2004). Another set of research studies audit fees in relation to audit committees and internal audit function (Abbott, Parker, Peters, & Raghunandan, 2003; Hay, Knechel, & Ling, 2008; Krishnan & Visvanathan, 2009; Redmayne, Bradbury, & Cahan, 2011; Zaman, Hudaib, & Haniffa, 2011; Juhl, Subramaniam, & Zain, 2012). In addition, there are meta-analysis studies that analyze prior audit fee research in different contexts (Hay et al., 2006; Hay, 2013; Habib & Jiang, 2015). Many concerns have been raised about the appropriateness of audit quality and audit fees charged by audit firms (Sikka, 2009). Audit function is said to be an external corporate governance monitoring mechanism (Jin, Kanagaretnam, & Lobo, 2011). It is said that auditing banks is more complex than auditing industrial firms (Chen et al., 2010). Accordingly, the choice of the audit firm to audit banks may have an impact on clients facing financial problems, leading to failure and bankruptcy.

It is argued that the Big Four audit firms care more about their reputations than other auditing firms. They are not involved in hiding biased and negative disclosures when the results are not to the benefit of their clients. This professional behavior helps the Big Four auditors to produce better audit output with better quality, which lowers the chance of banks' failure. Audited financial statements are prepared by external auditors for the sake of helping different stakeholders in investment decisions (Ussahawanitchakit, 2012).

### *Audit pricing – supply and demand perspectives*

Audit fees are the result of auditors' assessment of the clients' control environment as well as clients demanding better audit quality leading to an increase in audit fees. From a supply perspective, specialist bank auditors charge lower audit fees to banking clients as part of cost

reduction and accumulation of knowledge from similar clients. However, audit firms charge higher fees when working on critical accounting estimates and fair value measurement (Ettredge, Xu, & Yi, 2014). Fields et al. (2004) conduct a profiling study of banks in relation to audit fees. Banks with high credit risk, those involved in merger and acquisition (M&A) activities, and possess voluminous transactions require more scrutiny from auditors, leading to increased audit fees. Firms having losses also incur high audit fees due to the high audit risk tolerated by the auditor (Krishnan & Visvanathan, 2009). A company with a duality role leadership is said to have a weak internal control. Accordingly, auditors charge more audit fees because of high inherent risk (Muniandy, 2007). On the other hand, auditors may charge less when audit committees comprise independent directors. Bigger audit committees imply a higher risk profile, which requires more monitoring from auditors (Hines et al., 2015). The extent and level of supply of audit effort are affected by companies' characteristics that may affect audit fees (Simunic, 1980). Bell et al., (2001) state that audit clients with high business risk require more audit effort leading to an increase in audit fees. Companies with a history of clean financial statements are assessed as low risky clients. Hence, auditors may reduce the scope of audit and the extent of testing thus charging lower audit fees (Ghosh and Tang, 2015).

From a demand perspective, Bliss (2011) argues that board independence is associated with higher audit fees. Independent directors demand more audit assurance causing an increase in audit fees. Krishnan and Visvanathan (2009) conclude that audit fees of large clients have been higher than smaller ones. Active committee members require more effort from auditors leading to higher audit fees. Companies having complex estimates, their directors demand more audit assurance causing an increase in audit fees (Tsui, Jaggi, & Gul, 2001). The development of the hypotheses is following the demand side of audit pricing rather than the supply side. It is because the research scope is built on the impact of corporate governance mechanisms on

audit fees. While the supply side focuses mainly on how auditors assess their clients from a risk, volume of transactions, and complexity perspectives to charge them accordingly.

The conflict of interest between top management and shareholders and information asymmetry problems is mitigated by the demand for better audit quality. Board of directors are expected to play the role of monitoring managers through establishing a proper and effective governance framework and authority matrix which may prevent managers' incentive to manipulate financial/non-financial information (Ali et al., 2007). Firms with effective governance framework experience less agency problems. The demand for audit quality would be less because of less agency problems leading to lowering audit fees (Fan and Wong, 2005).

Based on the demand framework of this research, the following subsections discuss the two sets of variables in this study: board characteristics and audit committees' mechanisms.

### ***Board Characteristics***

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

Karim, Robin, and Suh (2015) find that audit fees are positively related with diverse and large boards of directors. Larger and classified boards seek better monitoring from external auditors, leading to increased audit fees. Therefore, audit fees are highly associated with larger boards that have various risk committees (Hines et al., 2015). It is noted that larger boards with established committees demand better audit quality and accordingly, face higher audit fees. There is weak evidence that board size plays a significant role in diminishing inconsistencies between management and auditors on the subject of going concern disclosures (Uang et al., 2006). Chen and Zhou (2007) state that companies with relatively larger board size may diminish auditors' reputations by dismissing the audit firm ahead of any scandal caused by the audit firm itself. Anderson, Mansi, and Reeb (2004) have argued that larger boards exercise better monitoring over the financial reporting system.

Zahra and Pearce (1989) argue that larger boards have the advantage of having directors with more diversified backgrounds. Such board members have heterogeneous technical and educational backgrounds. Accordingly, boards of directors may not be subject to management domination and will promote shareholders' interests. These shareholder interests would be catered for at the end of every financial year by means of financial statements audited by highly paid, high-quality external auditors. Bigger boards with more independent and diligent members demand more audit quality. More audit work is required from external auditors compared to companies with smaller boards and less diligent and independent members (Carcello et al. 2002). While board size is negatively associated with CEO impact, it is positively associated with a demand for more consultancy and audit needs. Those needs require more work from consultancy and audit firms leading to an increase in audit fees (Guest, 2008).

Thus, the hypothesis to be empirically tested is as follows.

***H1a:** There is a positive significant relationship between the size of the board of directors and audit fees.*

#### *Board Independence*

Independent directors are not involved in companies' operations but rather give assistance and guidance to the strategic system and take part in monitoring in the presence of concentrated/dominant shareholders (Long, Dulewicz, & Gay, 2005). Given the close relationship between board of directors and external auditors, Uang et al. (2006) argue that more non-executive board members reduce agency cost and lead to better reporting quality and a smaller gap with external auditors. The results show that non-executive directors play a minor role in reducing disagreement between external auditors and management (Uang et al., 2006). Abbott and Parker (2000) conclude that companies with more independent directors and effective audit committees assign higher-quality auditors. Independent directors care more for

monetary reputational losses. Independent directors have more incentives than inside directors for better monitoring since they care about the organization's reputational capital (Fama & Jensen, 1983), which leads to alleviation of agency cost. Abbott and Parker (2000) conclude that the percentage of outside directors is not an important criterion in external auditors' selection process. A review of previous literature emphasizes that boards should constitute members outside of a corporation and who should not have any remarkable relationship with the corporation itself or its top executive management, on account of the influence of those directors on different systems (Imhoff, 2003). However, more independent boards of directors demand better auditor reputation (Chen & Zhou, 2007). Board or audit committee members' independence is shown not to have a significant impact on audit fees (Krishnan & Visvanathan, 2009).

It has been concluded that more independent boards would have dismissed Arthur Andersen earlier and would have assigned a Big Four audit firm as a successor (Chen & Zhou, 2007). Lee, Mande, and Ortman (2004) conclude that independent boards of directors play an important role in persuading external auditors not to resign. Such boards of directors are inclined to work closely with external auditors to avoid and reduce the level of hidden audit risks. Carcello and Neal (2000) argue that the existence of independent directors leads to greater concern about audit quality in comparison to the presence of executive directors. Moreover, this leads to more plans to "buy" higher-quality audit service and to ascertain dependable financial information, thereby leading to an increase in audit fees. The hypothesis to be empirically tested is as follows.

***H1b:*** *There is a positive significant relationship between the proportions of independent directors on the board and audit fees.*

*Dual Role*

The dual role refers to the same individual occupying the positions of both CEO and chair of the board of directors (Lin & Liu, 2009). While there is no firm move to cease CEO/chair dual roles in the US, the UK corporate governance code states that a CEO ought not to be chair of the board simultaneously. Moreover, the UK codes state that if a dual role were to persist in exceptional situations, the board of directors ought to consult the main shareholders to explain and reveal the reasons in the next annual report (UK corporate governance code 2014). Scholars provide mixed evidence concerning the merits and drawbacks of CEO/chair dual roles. Lin and Liu (2009) conclude that there has been a downward switch to lower auditor quality when CEOs simultaneously chair the boards of directors. This is because firms with weak corporate governance mechanisms prefer protecting the vague advantage of having weak corporate governance and subsequently assign lower auditor quality.

The method of leadership is one of many principles exemplifying the code of corporate governance. It is particularly noteworthy that the dual role of chair and CEO has been considered a major criterion in measuring corporate governance mechanisms. Coles and Hesterly (2000) conclude that firms enjoy better share prices if they have separate CEO and chairperson positions and even have a chairperson who was never a former officer of the firm. A review of historical developments in accounting, auditing, and corporate governance indicates that a CEO or any top manager has been prohibited not only from acting as a chair of the board but also from being involved in directors' nomination processes so as to lessen any conflict of interest (Imhoff, 2003). Brickley, Coles, and Jarrell (1997) argue that the dual role is like an individual grading his or her own homework. The Sarbanes Oxley Act of 2002 (SOX) does not mandate basic requirements regarding the dual role (Green, 2004). Certain corporations assign one individual as both CEO and chair of the board positions on account of the "recommended" rather than "required" tone of the SOX and UK corporate governance code.

Firms with strong corporate governance have lower chances of failures because of better monitoring activities leading to a decrease in audit fees (Krishnan and Visavanathan, 2009). Companies with dispersed ownership and with the presence of a CEO duality role demand better audit quality, leading to high audit fees (Desender et al., 2009).

The hypothesis to be empirically tested is as follows.

*H1c: There is a positive significant relationship between audit fees and the dual role of CEO and chair.*

### ***Audit Committee***

In terms of audit committee and its impact on audit fees, and in the absence of audit committees, a firm with duality role incur less audit fees (Bliss, 2011). The Chairperson/CEO tends to compromise audit quality for the benefit of the duality privilege. Audit committees with relatively larger size are able to detect management misstatements compared to small audit committees. This may lead audit committees to demand better audit quality (Kim et al., 2016). Krishnamoorthy and Maletta (2016) find that audit committee characteristics (size and experts) have positive impact on audit quality especially when board of directors are less independent. During a period of recession, audit fees are less reduced because of a powerful audit committee, which implies that active audit committees demand better audit quality regardless the economic situation (Beck and Mauldin, 2014).

### ***Audit Committee Size***

The size of the audit committee is considered a measure for audit quality. The size itself provides an indicator of an effectual discharge of committee duties (Chartered Institute of Management Accountants, 2000). Larger audit committees are associated with more authority and possess wider knowledge (Karamanou & Vafeas, 2005; Hines et al., 2015). Kent and

Stewart (2008) conclude there is a negative relationship between disclosure levels and audit committee size. The negative coefficient is because smaller audit committees depend on external auditors for disclosure level. This conclusion leads to a substitution effect between external auditors and characteristics of audit committees (Kent & Stewart, 2008). Karamanou and Vafeas (2005) assert that larger audit committees lead to less information about forecasts and consequently, less guidance is provided to the market, while shareholders are exposed to risk or wealth problems. Moreover, Zaman et al. (2011) support this argument through the development of internal control quality, provided there is a big audit committee. This leads to enhanced effectiveness of audit committees by means of increasing resources available to them, leading to an increase in audit fees. The hypothesis to be empirically tested is as follows.

***H2a: There is a positive significant relationship between audit committee size and audit fees.***

#### *Audit Committee Expertise*

Among different audit committee characteristics, an audit committee should include at least one member with financial experience (Section 407 of the SOX). Karamanou and Vafeas (2005) declare that management forecasts are positively related with financially experienced audit committees. Better governance leads to more forecasts and updated disclosures flowing from management to shareholders. Krishnan and Visavanathan (2009) conclude there is an insignificant positive relationship between the existence of financial experts in audit committees and audit fees. Accounting experience, and not only general financial expertise, has a significant relationship to audit fees. The efficiency of audit committees is perceived more when financial and accounting experts prevail (Cohen et al., 2002). Mangena and Pike (2005) conclude that the financial expertise of audit committee members has an important positive impact on interim disclosures.

Based on the suggestion of agency theory regarding the monitoring role of principals, financial experts within audit committees are said to have positive influence on audit quality. Financial experts demand better audit quality that leads to an increase in audit fees (Sharma, 2003). This increase in demand for better audit quality is due to financial experts' monitoring role and their intent to comply entirely with the principal–agent conceptual framework. Karamanou and Vafeas (2005) declare that management forecasts are positively related to audit committees, which comprise financial experts. The hypothesis to be empirically tested is as follows.

***H2b:** There is a positive significant relationship between the financial expertise of audit committee directors and audit fees.*

#### *Board Independence, Audit Committee Efficiency and CEO/chair dual role interaction*

The presumptive assumption is CEO/chair dual role compromises board effective monitoring (Muniandy, 2007; Tsui et al., 2001). The fact that the same individual is having a considerable influence over both the operations and monitoring constraints the independence of the board in executing its vigilance duty and elevate the conflict of interest (Bliss, 2011). This CEO dominance is likely to reduce the effectiveness of the control system leading to a poor financial reporting (Messier, 2000; Cohen et al., 2004). Messier (2000) argues that when a CEO dominates a firm's financial and operational decisions, actions not aligned with the firm's interest might be taken and accounting transactions not in compliance with the control system might be processed, increasing the risk of material misstatement in firm's financials. Therefore, CEO dominated boards are likely to signal weaknesses in firms' internal control system and reduce the reliability in the reporting process (Tsui et al., 2001). However, the extent to which CEO/chair dual role could dominate a board is likely to be conditioned on the level of board independence and the effectiveness of the audit committee.

Board independent directors are said to enhance the effectiveness and efficacy of firms' monitoring environment (Guo & Masulis, 2015; Borokovich et al., 1996; Fama & Jensen, 1983). Their presence on corporate boards is likely to protect shareholders' interest and facilitate board fiduciary duty (John & Senbet, 1998; Ahmed, Hossain, & Adams, 2006). In line with agency theoretical framework, independent board directors are less dominated by the CEO and more able to properly exercise their governance responsibilities (Uang et al., 2006). This could have significant influence on the quality of financial reporting process and audit scope (Wallace, 1989). Prior literature strongly supports the role of effective monitoring in producing quality financial reporting (Abbott & Parker, 2000; Chen & Zhou, 2007). Carcello et al. (2002) argue that independent board directors demand higher audit quality "to protect their reputation capital, to avoid legal liability, and to promote shareholder interests". Hence, we expect that when boards are chaired by firms' CEOs, independent directors on the boards demand higher assurance on the quality of financial statements driven by their desire to protect shareholders as well as their reputations from abuse of power by the CEO/chair. Therefore, the association between board independence and audit fees is expected to be stronger in firms with CEO/chair dual roles.

On the other hand, the association between the effectiveness of the audit committee and audit fees might also be influenced by the CEO/chair dual roles. The audit committee is in charge of monitoring the integrity of the internal control system and reviewing the financial statements before being submitted to the board (Beasley et al., 2009; Sherman et al., 2009). Sarbanes-Oxley act section 302 emphasized on the role of the audit committee in maintaining reliable internal control system and ensuring safe control environment on behalf of the board and shareholders. Efficient audit committees seek higher reporting quality to ensure compliance with financial reporting standards (Muniandy, 2007). From agency theoretical

perspective, efficient audit committee is more inclined toward enhancing the quality of the financial statements to reduce information asymmetry (McMullen, 1996). This suggests that in the presence of CEO/chair dual role efficient audit committee is likely to demand higher audit quality to mitigate the inherent risk caused by the dual role of the CEO, which in turn requires more chargeable hours and leads to a higher audit fee.

As such, we expect that when the CEO/chair dual roles exist, independent board directors and efficient audit committees are likely to demand wider audit scope and pay higher audit fees. The hypothesis to be empirically tested is as follows.

*H3a: The positive association between board independence and audit fees will increase in firms with CEO/chair dual roles.*

*H3b: The positive association between audit committee efficiency and audit fees will increase in firms with CEO/chair dual roles.*

## **Research Design**

### ***Sample Selection and Data Collection***

Banks, as financial intermediaries and the backbone of the economy, can impose extensive negative impacts on the economies and societies in which they operate if they are poorly governed and controlled (Howells and Bain, 2008). The sub-prime mortgage crisis and subsequent credit crunch put banks under increasing pressure (Grove, Patelli, Victoravich, & Xu, 2011), which might have influenced the quality of their financial reporting and related audit fees. This study aims to investigate whether banks' internal corporate governance mechanisms influenced audit fees. Therefore, to ensure coherence in our sample and that all observations are subject to the same regulations and reporting requirements, we excluded savings institutions, central reserve depositories, and credit unions (Jizi, Salama, Dixon, & Stratling, 2014; Jizi and Dixon, 2017). Banks in the sample above \$1 billion in asset size were

identified using Thomson One Banker. The initial sample for the years 2009 – 2015 inclusive consisted of 749 active US-listed national commercial banks with asset size above \$1 billion based on 2009 data. Banks' annual reports and proxy statements were obtained to collect the audit fees and corporate governance data. Thomson One Banker was used to collect banks' financial data. After omitting the records of banks with missing data, the final dataset examined, for the 7 years, comprises 664 firm-year observations distributed as follows: 99 observations in each of 2009 and 2010, 97 observations in 2012, 95 observations in 2013, 92 observations in 2014, and 91 observations in each of 2014 and 2015.

### ***Variable Measurements and Model Specification***

#### *Audit Committee Efficiency*

The analysis of the influence of corporate governance on audit fees for the 7-year period is conducted using three models. The purpose of using a three-models technique is to explore not only the impact of corporate governance attributes in isolation of audit fees, but also the potential effects of the interaction of the CEO/chair dual role and board independence as well as the interaction of the CEO/chair dual role and audit committee efficiency (*ACE*) on audit fees. Introducing the interaction variables helps provide better understanding of the impact of board independence and audit committee on audit fees when CEO/chair dual roles exist. This is a major differentiation of our study from the rest of the literature. While board independence is measured by the percentage of independent directors serving on a board, the effectiveness of the audit committee is measured using a composite measure. The effectiveness of audit committees is noticed to be a considerable determinant in selecting specialized, high-qualified auditors (Abbott & Parker, 2000). Previous research into audit committee points to the importance of the committee composition and diligence in determining its efficiency. Previous researchers argue that the audit committee size, number of financial experts, and frequency of

meetings are related to the quality of financial reporting and ensuring a sufficient control environment (Cohen et al., 2002; K. Chen & Zhou, 2007).

In line with Zaman et al. (2011), audit committee efficiency is computed as a function of audit committee size, number of financial experts, and frequency of meeting. Arguably, audit committees with relatively larger size are allied with more authority and hold wider knowledge and expertise (Kalber & Fogarty, 1993; Karamanou & Vafeas, 2005). The composition of the audit committee is also of importance. While all members should be independent, section 407 of the SOX requires the presence of at least one financial expert serving in the audit committee. Previous research shows that committees with more financial expertise are less associated with control weaknesses and are more inclined toward conservative reporting (Krishnan & Visvanathan, 2009 R. Hoitash & U. Hoitash, 2009). In terms of diligence, the frequency of audit committee meetings reflects higher diligence and more active audit committee to safeguard better control over the reporting process (Chen & Zhou, 2007; Yasin & Nelson, 2012). According to the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (1999), the audit committee is recommended to have a minimum of four meetings per annum. Therefore, the three audit committee dimensions (size, number of financial experts, and frequency of meetings) are transferred first into binary variables. That is, if the audit committee has more than three members, a value of one is given, and zero otherwise. Committees with more than two financial experts, which is the sample mean, are given a value of one, and zero otherwise. Similarly, if the audit committee met more than eight times a year, which is the sample mean, a value of one is given, and zero otherwise. Then, the audit committee efficiency variable is computed by adding up the three binary variables. Therefore, the audit committee efficiency variable used in the analysis has a value that ranges from zero (weakly efficient audit committee) to three (highly efficient audit committee).

### *Control Variables*

Previous audit fee literature suggests a number of explanatory factors that intervene in the explanation of audit fees. Thus, to avoid model misspecification, we introduce a set of control variables that can be grouped into board effectiveness, firm characteristics, and bank-specific variables. Active boards of directors seek differential audit work to protect their reputational capital and avoid legal responsibilities (Carcello et al., 2002; Krishnan and Visvanathan, 2009; Johl et al., 2012). Similarly, active audit committees demand better quality audit (Yasin & Nelson, 2012). The frequency of audit meetings is positively related to the quality of disclosures and reduced problems in financial reporting (Farber, 2005; Kent & Stewart, 2008; Krishnan & Visvanathan, 2009). Therefore, we control for board and audit committee diligence using the number of board and audit committee meetings.

The second set of control variables comprises firm-related variables. Large clients differ in their relative needs for audit and require higher quality (Francis & Wilson, 1988; Haskins & Williams, 1990; Carcello & Neal, 2003). Their operations are more complex than those of their smaller counterparts, and we expect that firms with larger asset size pay higher audit fees. The second control variable in this set comprises return on assets. A poor-performing firm is likely to suffer from issues in its internal control system and consequently, will demand higher audit quality (Abbott & Parker, 2000; Uang et al., 2006; Dao, Mishra & Raghunandan, 2008). In addition, leverage is employed to control for firms' risk. In systems in which creditors' rights have been protected, highly leveraged companies demand higher audit quality (Broye & Weill, 2008). As high-leverage firms require higher monitoring (Zaman et al., 2011), leverage is vital as proof of whether external auditors are performing a corporate governance role (Fan & Wong, 2005). Finally, we expect that banks that hire a Big Four audit firm incur higher audit fees. Big Four audit firms have detailed audit procedures that require more chargeable hours compared to non-Big Four audit firms. Moreover, banks with financial

difficulties might avoid hiring a Big Four audit firm either to avoid the high audit fees or to avoid exposing their weak system of internal controls (Zaman et al., 2011).

### *Bank-specific Control Variables*

To control for bank-specific characteristics, we considered a set of banking quality measures reflecting their credit risks and exposures. Credit risk is a main risk facing banking institutions (Fields et al., 2004), as lending activities are subject to inherent risk that might influence a bank's financial condition. If a loan portfolio contains relatively large balances of a particular type of loans, the deterioration of this loan type due to changes in the economics of credit market conditions might significantly increase non-performing loans, which in turn leads to loss of earnings. This might result in a material adverse effect on the bank's financial position and operational results. We measure the concentration of the loan portfolio to proxy for the allocation of funds across three loan categories (residential loans, commercial loans, and consumer/retail loans) (Demsetz & Strahan, 1997; Fields et al., 2004; Berger, Clarke, Cull, Klapper, & Udell, 2005; Kanagaretnam et al., 2010). The allocation of loan portfolio helps to understand bank performance (Berger et al., 2005) and whether audit fees are influenced by the loan portfolio structure.

Commercial loans include, among others, industrial, agricultural, and open lines of credit, which are generally granted to finance a firm's working capital and settlement time, with amounts determined by the borrower. Thus, the commercial loan portfolio lacks transparency and auditors are responsible for validating the sufficiency of the bank's loss provision. Therefore, auditing complex transactions, such as commercial loans, is likely to require more delicate measures and time (Fields et al., 2004). The other loan type is residential loans, which include, among others, loans for 1–4 family residences, real estate construction loans, and home equity loans. Residential loans are generally securitized by residences and

their risk of default is relatively low (Fields et al., 2004). However, bank hedging strategies to manage the risk of interest rate changes and the change in real estate value after the financial crisis increased the uncertainty of the residential loan portfolio. Consequently, an auditor's effort is expected to increase with an increase of the residential loan portfolio.

On the other hand, the inherent risk in the loan portfolio requires estimating credit losses resulting from non-performing loans (Kanagaretnam et al., 2010). Loan loss provision represents management's best estimate of possible losses incurred within their existing loan portfolio. The provision level mirrors management's continuous evaluation of, among others, their loan concentrations, credit risks, portfolio quality, loan loss experience, and regulatory, economic, and political conditions. To check the quality of loans and the conservatism of banks in managing the loan portfolio, the allowance for loan loss ratio and non-performing loan ratio are used (Beaver, Eger, Ryan, & Wolfson, 1989; Berger et al., 2005; Stiroh, 2006; Ettredge et al., 2014). These loan performance indicators reflect the level of non-accruing loans, the loans facing recovery difficulties, as well as the risk of loans with borrower insolvency problems (Berger et al., 2005). Consequently, it is important to observe how loan performance indicators reflect the level of audit work. Finally, the loan ratio is used to control for bank business mix and hence, proxies for differences in asset composition (Baumann & Nier, 2004; Berger et al., 2005).

### **The Models**

To test the hypotheses, we use the following models.

Model (1) estimates the association between the board and audit committee structure and audit fees

$$LAF_t = \alpha + \beta_1 BS_t + \beta_2 BI_t + \beta_3 DUAL_t + \beta_4 BM_t + \beta_5 ACS_t + \beta_6 ACFE_t + \beta_7 ACM_t + \beta_8 ROA_t + \beta_9 Lev_t + \beta_{10} SIZE_t + \beta_{11} AFS_t + \beta_{12} LR_t + \beta_{13} ALL_t + \beta_{14} NPL_t + \beta_{15} ResLC_t + \beta_{16} ComLC_t + \beta_{17} ConLC_t + \epsilon$$

Model (2) estimates the influence of CEO/chair dual role on the relationship between board independence and audit fees

$$LAF_t = \alpha + \beta_1 BS_t + \beta_2 BI_t + \beta_3 DUAL_t + \beta_4 BM_t + \beta_5 BIDUAL_t + \beta_6 ACS_t + \beta_7 ACFE_t + \beta_8 ACM_t + \beta_9 ROA_t + \beta_{10} Lev_t + \beta_{11} SIZE_t + \beta_{12} AFS_t + \beta_{13} LR_t + \beta_{14} ALL_t + \beta_{15} NPL_t + \beta_{16} ResLC_t + \beta_{17} ComLC_t + \beta_{18} ConLC_t + \hat{\epsilon}$$

Model (3) estimates the influence of CEO/chair dual role on the relationship between ACE and audit fees

$$LAF_t = \alpha + \beta_1 BS_t + \beta_2 BI_t + \beta_3 DUAL_t + \beta_4 BM_t + \beta_5 ACEDUAL_t + \beta_6 ACS_t + \beta_7 ACFE_t + \beta_8 ACM_t + \beta_9 ROA_t + \beta_{10} Lev_t + \beta_{11} SIZE_t + \beta_{12} AFS_t + \beta_{13} LR_t + \beta_{14} ALL_t + \beta_{15} NPL_t + \beta_{16} ResLC_t + \beta_{17} ComLC_t + \beta_{18} ConLC_t + \hat{\epsilon}$$

$\alpha$	The intercept.
$\beta_1 \dots \beta_n$	The regression coefficients.
$t$	Period indicator.
$\hat{\epsilon}$	The error term.

[Table 1 about here]

First, the influence of corporate governance on audit fees is examined independently and then, it is examined after introducing interaction variables using the fixed-effect panel linear regression with robust standard error. The Spearman correlations matrix and variance inflation factor (VIF) tests are used to test for multicollinearity in the examined model. Table (1) shows that there is no serious collinearity between the examined independent variables. In addition, we test for heteroskedasticity using the Breusch–Pagan/Cook–Weisberg test for heteroskedasticity. The results show no threat of heteroskedasticity. To assess if the estimated relationships should be tested using a random-effect or fixed-effect model, the Hausman test is conducted, showing that the difference in coefficients is systematic and consequently, the fixed-effect model should be used.

[Table 2 about here]

## **Results and Discussion**

### *Descriptive Statistics*

The audit fees paid by the US national commercial banks in the period between 2009 and 2015 vary between \$78,100 and \$96.6 million. The mean of the total audit fees paid is \$3.7 million and the standard deviation is \$13.3 million. We find a slight increase in the audit fees from 2009 to 2015, as the mean of the audit fees increases from \$3.64 million to \$3.96 million.

The Office of the Controller of the Currency (OCC) regulates US national banks and mandates the range of the number of directors on boards between 5 and 25. Our results show that board size in US national commercial banks varies between 5 and 21 directors. The mean of the board size is 12.4, which is in line with Pathan and Skully (2010), who examine US bank holding companies between 1997 and 2004. They find that US bank holding companies have a mean board size of 12.92 and the number of directors varies between 5 and 31. The difference in the maximum number of directors between our study and theirs could be explained by the sample differences, as Pathan and Skully (2010) examined a sample of US bank holding companies that are not subject to the OCC regulations. In addition, the difference could be due to a decline in the number of directors in large and medium banks (Linck, Netter, & Yang, 2008; Pathan & Skully, 2010).

The percentage of independent directors on the board ranges between 50% and 94 % with a mean of 81%. Our results show some changes compared to those of Pathan and Skully (2010), as board independence in their study ranges between 10% and 96.5% with a mean of 64.5%. This reflects increasing pressure on listed banks to increase board independence.

According to Section 303A of the New York Stock Exchange's (NYSE) Listed Companies Manual, the boards of public companies should have a majority of independent directors.<sup>1</sup>

With respect to the CEO/chair dual roles, 43% of the banks examined in our sample have a CEO/chair dual role. Comparing our results to those of Pathan and Skully (2010), we identify a decrease in CEO/chair dual roles, as banks are likely to be under pressure to restrict dual roles when firms perform poorly (Hermalin & Weisbach, 1998; Linck et al., 2008). This is likely to have been the case during and after the financial crisis, which was centered on the banking sector.

The size of the audit committee varies between 3 and 9 members with a mean of 4.5. On the other hand, the number of financial experts in the audit committees ranges between zero and seven. In line with section 407 of the SOX, mandating the disclosure of whether financial experts serve in the audit committee or the reason for their absence, 7% of banks did not have a financial expert serving in the audit committee.

[Table 3 about here]

### ***Testing of Hypotheses***

The results of the regressions estimating the relationship between the examined corporate governance characteristics and the audit fees, reported in Table 3, show that the overall model is significant at  $p < 0.01$  and explains 79% of the variation in the audit fees. The size of the board of directors, board independence, and CEO/chair dual roles are statistically significant

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<sup>1</sup> See Securities Exchange Act Release No. 48745 (November 4, 2003); 68 FR 64154 (November 12, 2003) (SR-NYSE-2002-33).

and positively related to audit fees. With respect to audit committee characteristics, the number of financial experts and the frequency of meetings are positively associated with audit fees.

Our results support hypothesis H1a, which predicts that banks with larger board size incur higher audit fees. As national commercial banks are complex corporations (Grove et al., 2011), directors on boards of relatively large size have less workload (John & Senbet, 1998) and more diversified technical and educational backgrounds (Zahra & Pearce, 1989), which is likely to enhance the quality and time allocated to monitoring management. Therefore, boards with larger size have better monitoring over the financial reporting process (Anderson et al., 2004), through seeking higher audit quality. This is in line with previous research on audit fees (Guedhami, Pittman, & Saffar, 2009; Lin & Liu, 2009).

Hypothesis H1b, which suggests there is a positive relationship between board independence and audit fees, is not supported in model (1). When estimating the relationships with the presence of the board independence–CEO/chair dual role interaction variable, the results indicate that CEO/chair dual role affects the relationship between board independence and audit fees. The interaction variable is positive and significant. Hence, when CEO/chair dual role exists (i.e. the CEO/chair dual role variable takes a value of one) the higher the percentage of board independence the higher the audit fees/quality. On the other hand, when the roles of the CEO and the chair of the board are separated (i.e. the CEO/chair dual role variables takes a value of zero) the interaction variable takes a value of zero and consequently board independence no longer demand higher audit quality. This suggests that boards with higher independence increase their monitoring through extended audit agendas, thereby leading to higher audit fees when CEO/chair dual roles exist. This is likely to reflect the boards' effectiveness at protecting shareholders' interests (John & Senbet, 1998; Ahmed et al., 2006), especially after the sub-prime mortgage crisis, and boards' attention toward better quality

financial reporting. This indicates that in line with the agency theoretical framework, independent directors promote the need for higher audit quality to protect the interests of shareholders, which increases the corresponding audit fees. Independent directors seek better reporting quality (Uang et al., 2006) and tend to hire high-quality auditors (Abbott & Parker, 2000; Chen & Zhou, 2007). This finding is consistent with the results of Carcello et al. (2002) and Zaman et al. (2011), which show the direct influence of larger board independence on audit fees.

Similar to Krishnan and Visvanathan (2009), who argue that the absence of CEO/chair dual roles reduces audit fees owing to enhanced governance and low potential for failure, our results support the hypothesis H1c, which expects that CEO/chair dual roles lead to higher audit fees. This suggests that in order to appease the pressure of the shareholders and enhance monitoring, particularly in the period within and after the financial crisis, banks with dual CEOs and chairs seek audits of higher quality. This requires more chargeable hours and consequently, higher audit bills. A possible explanation is that audit firms opt for extensive audit testing when dual roles exist in order to limit their firms' risk exposure and to protect their reputations, as they do not rely on internal control systems when dual roles exist (Bliss et al., 2011). A possible alternative justification might be the independent directors' intention to increase monitoring through larger audit scope to protect shareholders as well as their reputations from abuse of power by the CEO/chair. In this context, it can be argued that shareholders of banks with CEO/chair dual roles incur higher audit bills either to help the independent directors exercise scrutiny or to limit the risk exposure of the audit firm. This opens up an interesting question as to whether the higher audit bill is driven by audit firm risk considerations and paid by shareholders or by increasing demands of independent board directors for wider audit scope.

However, the current results do not allow us to provide a definitive answer; the introduction of the interaction variables later in this section helps articulate the possible reason behind this.

With respect to the audit committee characteristics, the results support hypothesis H2b. Given banks' risky operations and in line with the monitoring role of the audit committee to ensure the integrity of the financial statements (Beasley et al., 2009; Goh, 2009; Krishnan & Visvanathan, 2009; Sherman et al., 2009), the results imply that audit committees with larger numbers of financial experts demand more from audit firms to enhance audit quality and the reliability of financial reporting (Sharma, 2003; Bédard, Chtourou & Courtea, 2004; Chen & Zhou, 2007; Hoitash & Hoitash, 2009). This is in line with Sharma (2003), Mangena and Pike (2005), and Krishnan and Visavanathan (2009). In addition, our findings show that meeting frequency of audit committees is statistically significantly related to audit fees, with higher meeting frequency likely to influence audit quality. This is in accordance with the findings of Chen and Zhou (2007) and Krishnan and Visvanathan (2009), who suggest a positive relationship between the number of audit committee meetings and audit fees.

To investigate whether efficient audit committees require additional audit work when CEO/chair dual roles exist, an interaction variable between the CEO/chair dual role and the audit committee efficiency variable is introduced. The interaction variable is positive and significant. Given that the audit committee efficiency variable is an integer ranging from zero (weakly efficient audit committee) to three (highly efficient audit committee), when CEO/chair dual role exists, the impact of audit committee efficiency on audit fees doubles when the audit committee efficiency increases. Alternatively, when the roles of the CEO and the chair of the board are separated (i.e. the CEO/chair dual role variables takes a value of zero) the interaction variable takes a value of zero, and hence audit committee efficiency no longer leads to higher audit quality. The results suggest that banks with more efficient audit committees tend to have

higher audit fees when the CEO also chairs the board. The increasing audit fees reflect the increase in chargeable hours conducted by the audit firm to comply with the increasing demands of the audit committee (Abbott & Parker, 2000; Chen & Zhou, 2007). The audit committee's demand for more audit work is likely intended to maintain proper safeguards in order to reduce the risk of abuse of power by the CEO/chair, which is in line with the committee's role to oversee the process of financial reporting (Krishnan & Visvanathan 2009). Our result is in accordance with Zaman et al. (2011), who examine a sample of UK firms and argue that relatively more effective audit committees demand wider audit scope to enhance their monitoring role, which in turn leads to higher audit bills.

[Table 4 about here]

### ***Additional Testing***

The auditor–auditee economic bond might increase by providing no statutory audit services (Kinney and Libby, 2002). Audit-related and/or non-audit fees are likely to reflect the extent of auditor–auditee economic benefits, as these fees reflect the additional profit obtained from the audit client (Kanagaretnam et al., 2010). Auditors might decrease their audit fees if this decrease is to be compensated by higher non-audit fees (Kanagaretnam et al., 2010). The auditor–auditee economic bond might impair auditor independence and influence the quality of audit services (Agrawal and Chadha, 2005). Moreover, as audit firms provide a wide range of services, non-audit fees are likely to indicate the degree of auditor independence (Srinidhi and Gul, 2007). Therefore, to be in line with previous research, we control for an auditor's independence and/or economic bond using alternatively the ratio of audit-related fees to total audit fees and the ratio of audit fees to total fees obtained by the auditor. Table (5) shows that both measures used to proxy for auditors' independence and the levels of economic bond with their clients are not associated with the audit fees. This suggests that the pricing of an audit

assignment was influenced by neither the provided non-audit services nor the relative amount of audit fees to the total fees. Moreover, the direction of significance and association for the other variables remains largely similar to our previous findings.

In unreported results, to ensure that our results are robust, we transformed the board independence variable into a dummy variable to assess the impact on audit fees of high and low independence, rather than the proportion of independent directors. The board independence dummy variable takes a value of 1 if the percentage of independent directors on the board is greater than the overall mean of board independence, and 0 otherwise. The results reported are almost consistent with those reported in the rest of this paper.

[Table 5 about here]

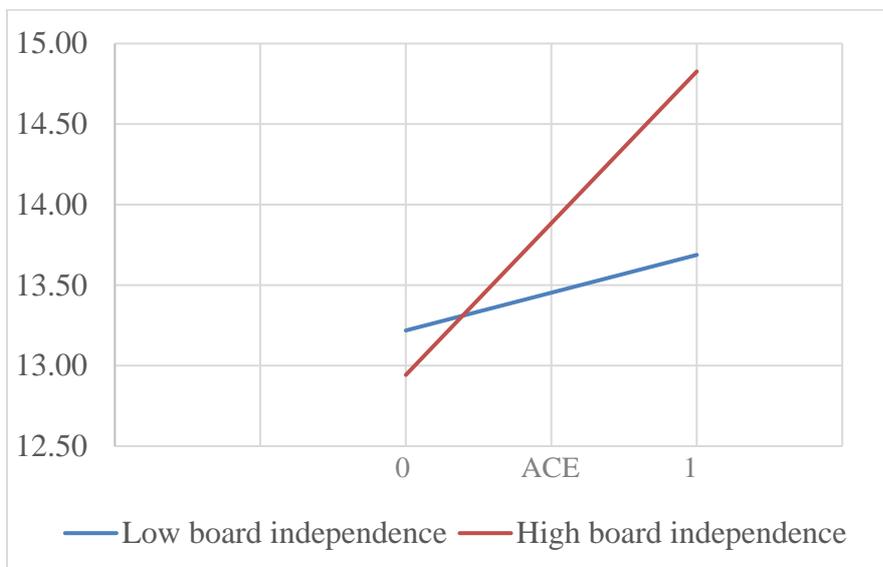
To further improve the robustness and validity of our results, we split the examined sample into two groups. The first group comprises firms having CEO duality and the second group comprises firms that separated the roles of the CEO and the chair of the board. We estimated the relationships separately for each group to understand better the association between board monitoring and audit fees. The results show that board independence is statistically significant and positively associated with audit fees when the bank CEO chairs the board of directors. In contrast, when the bank CEO is not chairing the board, the proportion of independent directors on the board negatively associate with audit fees. This supports our argument that independent board directors demand higher audit quality when dual roles exist to protect shareholders as well as their reputations from abuse of power by the CEO/chair. On the other hand, whether the CEO is chairing the board or the CEO-chair roles are separated the audit committee variables associate with the audit fees in the same manner. This suggests that demanding higher audit quality when CEO duality exists is driven by the efficiency of the audit committee rather than individual audit committee attributes.

[Table 6 about here]

To identify whether differences in financial reporting quality (proxied by the level of audit work/fees) exists between firms having different levels of board independence and audit committee efficiency, we conducted an ANOVA with board independence dummy, audit committee efficiency dummy, and their interaction as the independent variables and log audit fees as the dependent variable. The two-way interaction between board independence and audit committee efficiency is significant ( $F(1, 13.286) = 8.97, p < .01$ ). Results show that log audit fee is the highest in high board independence and high audit committee efficiency condition ( $M_{\text{high-high}} = 14.83, SD = 1.597$ ). To illustrate further, we plot the interaction between board independence and audit committee efficiency in figure 1. Therefore, a firm having CEO duality get higher financial reporting quality when the board is at high level of independence and the audit committee is highly efficient.

[Table 7 about here]

**Figure 1**  
Mean of log audit fees at different levels of board independence and audit committee efficiency



## **Conclusion**

Prior research on the relationship between corporate governance and audit fees has found that firms with greater board independence and more effective audit committees incur higher audit fees, as they demand wider scope and higher audit quality to enhance their monitoring role (Carcello et al., 2002; Zaman et al., 2011). However, there remains a gap in the literature on the influence of board independence and audit committee effectiveness on audit fees when CEO/chair dual roles exist. The quality of corporate governance is important for assessing clients' risk and planning for effective audit processes (Cohen et al., 2002). Indeed, audit firms consider the effectiveness of their clients' corporate governance, as deficiencies in client's corporate governance might lead to earnings manipulation and weak financial reporting (McMullen, 1996; Carcello & Neal, 2000). Moreover, firms characterized by weak corporate governance are considered by audit firms to be more risky, which impacts on client acceptance (Cohen et al., 2002).

Examining a sample of large national US commercial banks in the post-crisis period, we estimated the impact of both the board of directors and audit committee characteristics on audit fees. In addition to introducing both the board of directors and the audit committee structures in the same model, rather than each in isolation, we introduced two interaction variables. In doing so, we provided a wider view on the estimated relationships and assessed the influence of board independence and audit committee effectiveness on audit fees when CEO/chair dual roles exist. This is a major distinguishing aspect of our study from the existing literature. The findings suggest that variables related to the board of directors are significantly associated with audit fees. In particular, our research indicates that board independence, board size, and CEO/chair dual roles are positively and significantly related to the audit fees of US banks. These findings suggest that relatively larger boards of directors demand higher audit quality, which in turn increases audit fees. This enhances the monitoring role of boards and

contributes to safeguarding stakeholders' interests in general, not only the interests of shareholders who appoint boards. Moreover, the study suggests that the number of financial experts in the audit committee is directly associated with audit fees. Audit committee members with financial backgrounds seek wider audit scope to increase the reliability of financial reporting.

To understand the positive impact of CEO/chair dual roles on audit fees, specifically, whether it is driven by the demand for higher audit quality to enhance board vigilance or to account for audit firms' additional risk exposure, two interaction variables were introduced. This helps us to better understand the effects of the behavior of board independent directors and the audit committee on audit fees when dual roles exist. Our study suggests that independent board directors demand higher audit quality when dual roles exist, which leads to extra chargeable hours. Similarly, the existence of CEO/chair dual roles seems to increase the audit committee's concerns about financial statement deficiencies, and the committee in turn seeks a more effective audit process. The increasing attention on high audit quality is aimed to protect the interests of stakeholders in general, and shareholders in particular, from the risk of abuse of power by CEOs who also chair their boards.

In other words, boards with higher independence and more efficient audit committees are expected to seek wider audit scope and exercise higher monitoring through their demand for quality external audit to mitigate reputational risk and legal liabilities. Therefore, during and after the financial crisis, firms with relatively more effective corporate governance mechanisms were likely to have higher audit fees.

In the future, the research could be extended to cover the financial sector, not only the banking sector, even though it is a major segment of the financial industry. This would help to reach a more generalized conclusion. Additionally, extending the examined sample to cover

the period prior to the financial crisis is important to identify differences in the interrelationships between CEO duality, board independence, and audit fees on one hand, and CEO duality, audit committee efficiency, and audit fees on the other hand.

## References

- Abbott,L.J.,& Parker, S.(2000),”Auditor selection and audit committee characteristics”, *Auditing: A Journal of Practice and Theory*, Vol. 19 No. 2, pp. 47-66.
- Abbott, L., Parker, S., Peters,G.& Raghunandan,K.(2003),”The association between audit committee characteristics and audit fees”, *Auditing: A Journal of Practice & Theory*, Vol. 22 No. 2, pp. 17-32.
- Ahmed, K., Hossain, M. & Adams, M. (2006),”The effect of board composition and board size on the informativeness of annual accounting earning”, *Corporate Governance: An International Review*, Vol. 14 No. 5, pp. 418-431.
- Anderson,R.C.,Mansi,S.A.&Reeb,D.M.(2004),”Board characteristics, accounting report integrity, and the cost of debt”, *Journal of Accounting and Economics*,Vol. 37 No. 3, pp. 315-342.
- Agrawal,A & Chadha,S.(2005),”Corporate governance and accounting scandals”, *Journal of Law and Economics*, Vol. 48 No. 2, pp. 371-406.
- Baumann,U.&Nier,E.(2004),”Disclosure, volatility, and transparency: An empirical investigation into the value of bank disclosure”, *Federal Reserve Bank N.Y. Economic Policy Review*, Vol. 10 No. 2, pp. 31-54.
- Beasley,M.,Carcello,J,Hermanson,D.&Neal,T, (2009),”The audit committee oversight process”, *Contemporary Accounting Research*, Vol. 26 No.1, pp. 65-122.
- Beaver,W.,Eger,C.,Ryan,S.&Wolfson,M.(1989),”Financial reporting, supplemental disclosures, and bank share prices”, *Journal of Accounting Research*, Vol. 27 No. 2, pp. 157-178.
- Beck, M. J., & Mauldin, E. G. (2014), "Who's really in charge? Audit committee versus CFO power and audit fees", *The Accounting Review*, Vo. 89 No. 6, pp. 2057-2085.
- Bédard,J.,Chtourou,S.M.&Courtea,L.(2004),”The effect of audit committee expertise, independence and activity on aggressive earnings management”,*Auditing: A Journal of Practice and Theory*, Vol. 23 No. 2, pp. 15-37.
- Berger,A.,Clarke,G.,Cull,R.,Klapper,L.&Udell,G.(2005),”Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership”, *Journal of Banking & Finance*,Vol. 29, pp. 2179–2221.
- Bliss,M.A.,Gul,F.A.&Majid,A.(2011),”Do political connections affect the role of independent audit committees and CEO Duality? Some evidence from Malaysian audit pricing”, *Journal of Contemporary Accounting and Economics*, Vol. 7 No. 2, pp. 82-98.
- Bliss, M.A. (2011). “Does CEO duality constrain board independence? Some evidence from audit pricing”, *Accounting & Finance*, Vol. 51 No. 2, pp.361-380.

- Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (1999), *Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees*, New York: New York Stock Exchange and the National Association of Securities Dealers
- Brickley, J.A., Coles, J.L. & Jarrell, G. (1997), "Leadership structure: Separating the CEO and Chairman of the Board", *Journal of Corporate Finance*, Vol. 3 No. 3, pp. 189-220.
- Borokhovich, Kenneth A., Robert Parrino, and Teresa Trapani, (1996), "Outside Directors and CEO Selection", *Journal of Financial and Quantitative Analysis*, Vol. 31, pp. 337-355.
- Broye, G.r., & Weill, L. (2008), "Does leverage influence auditor choice? A cross-country analysis", *Applied Financial Economics*, Vol. 18 No. 9, pp. 715-731.
- Brunnermeier, M.K. (2009), "Deciphering the liquidity and credit crunch 2007-2008", *The Journal of economic perspectives*, Vol. 23 No. 1, pp. 77-100.
- Carcello, J.V., & Neal, T.L. (2000), "Audit committee composition and auditor reporting", *The Accounting Review*, Vol. 75 No. 4, pp. 453-467.
- Carcello, J.V., & Neal, T.L. (2003), "Audit committee characteristics and auditor dismissals following 'New' going-concern reports", *The Accounting Review*, Vol. 78 No. 1, pp. 95-117.
- Carcello, J.V., Hermanson, D.R., Neal, T.L., & Riley, R.A. (2002), "Board characteristics and audit fees", *Contemporary Accounting Research*, Vol. 19 No. 3, pp. 365-384.
- Chartered Institute of Management Accountants, 2000, *Corporate Governance – History, Practice and Future* CIMA, London.
- Chen, K., & Zhou, J. (2007), "Audit committee, board characteristics, and auditor switch decision by Andersen's clients", *Contemporary Accounting Research*, Vol. 24 No. 4, pp. 1085-1117.
- Chen, W.P., Chung, H., Hsu, T.L., & Wu, S. (2010), "External financing needs, corporate governance, and firm value", *Corporate Governance: An International Review*, Vol. 18 No. 3, pp. 234-249.
- Cohen, J., Krishnamoorthy, G. & Wright, A. (2002), "Corporate governance and the audit process", *Contemporary Accounting Research*, Vol. 19 No. 4, pp. 573-594.
- Cohen, J., Krishnamoorthy, G. & Wright, A. (2004), "The Corporate Governance Mosaic and Financial Reporting Quality", *Journal of Accounting Literature*, Vol. 23, pp. 87-152.
- Coles, J.W., & Hesterly, W.S. (2000), "Independence of the chairman and board composition: firm choices and shareholder value", *Journal of Management*, Vol. 26 No. 2, pp. 195-214.
- Collier, P. & Gregory, A. (1996), "Audit committee effectiveness and the audit fees", *European Accounting Review*, Vol. 5 No. 2, pp. 177-198.

- Canyon, M. J., & Peck, S. I. (1998), "Board size and corporate performance: Evidence from European countries", *European Journal of Finance*, Vol. 4 No. 3, pp. 291-304.
- Dao, M., Mishra, S., & Raghunandan, K. (2008), "Auditor tenure and shareholder ratification of the auditor", *Accounting Horizons*, Vol. 22 No. 3, pp. 297-314.
- Demsetz, R. & Strahan, P. (1997), "Diversification, size, and risk at bank holding companies", *Journal of Money, Credit and Banking*, Vol. 29 No. 3, pp. 300-313.
- Desender, K. A., Aguilera, R. V., Crespi-Cladera, R., & Garcia-Cestona, M. A. (2009), "Board characteristics and audit fees: Why ownership structure matters", *University of Illinois at Urbana-Champaign, College of Business WP*, 09-0107.
- Ettredge, M. L., Xu, Y., & Yi, H. S. (2014), "Fair value measurements and audit fees: Evidence from the banking industry", *Auditing: A Journal of Practice & Theory*, Vol. 33 No. 3, pp. 33-58.
- Fama, E. F., & Jensen, M. C. (1983), "Separation of ownership and control", *Journal of Law and Economics*, Vol. 26 No. 2, pp. 301-325.
- Fan, J. P. H., & Wong, T. J. (2005), "Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia", *Journal of Accounting Research*, Vol. 43 No. 1, pp. 35-72.
- Farber, D. B. (2005), "Restoring trust after fraud: does corporate governance matter?", *The Accounting Review*, Vol. 80 No. 2, pp. 539-561.
- Fields, L. P., Fraser, D. R., & Wilkins, M. S. (2004), "An investigation of the pricing of audit services for financial institutions", *Journal of Accounting and Public Policy*, Vol. 23 No. 1, pp. 53-77.
- Francis, J. R., & Wilson, E. R. (1988), "Auditor changes: A joint test of theory relating to agency costs and auditor differentiation", *Accounting Review*, Vol. 63 No. 4, pp. 663-682.
- Goh, B. W. (2009), "Audit committees, boards of directors, and remediation of material weaknesses in internal control", *Contemporary Accounting Research*, Vol. 26 No. 2, pp. 549-579.
- Green, S. (2004), "Unfinished business: Abolish the imperial CEO!", *Journal of Corporate Accounting and Finance*, Vol. 15 No. 6, pp. 19-22.
- Grove, H., Patelli, L., Victoravich, L. M., & Xu, P. (2011), "Corporate governance and performance in the wake of the financial crisis: Evidence from US commercial banks", *Corporate Governance: An International Review*, Vol. 19 No. 5, pp. 418-436.
- Guedhami, O., Pittman, J. A., & Saffar, W. (2009), "Auditor choice in privatized firms: Empirical evidence on the role of state and foreign owners", *Journal of Accounting and Economics*, Vol. 48 No. 2-3, pp. 151-171.
- Guest, P. M. (2008), "The determinants of board size and composition: Evidence from the UK", *Journal of Corporate Finance*, Vol. 14 No. 1, pp. 51-72.

- Guo, L. & Masulis, R. (2015), "Board structure and monitoring: New evidence from CEO turnovers." *Review of Financial Studies*, Vol. 28 No.10, pp. 2770-2811.
- Habib,A.,&Jiang,H.,(2015),”Corporate governance and financial reporting quality in China: A survey of recent evidence”,*Journal of International Accounting, Auditing and Taxation*, Vol. 24, pp.29-45.
- Haskins,M. E.,&Williams,D.D.(1990),”A contingent model of intra-big eight auditor changes”, *Auditing: A Journal of Practice and Theory*, Vol. 9 No. 3, pp. 55-74.
- Hay,D.(2013),”Further Evidence from Meta-Analysis of Audit Fee Research”,*International Journal of Auditing*, Vol. 17 No. 2, pp. 162-176.
- Hay,D.,Knechel,W.R.&Ling,H.(2008),”Evidence on the impact of internal control and corporate governance on Audit Fees”,*International Journal of Auditing*,Vol. 12 No. 1, pp. 9–24.
- Hay,D.C.,Knechel, W.R., & Wong, N.(2006),”Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes”, *Contemporary accounting research*, Vol.23 No.1, pp.141-191.
- Hermalin,B.E.&Weisbach,M.S.(1998),”Endogenously chosen boards of directors and their monitoring of the CEO”, *American Economic Review*, Vol. 88 No.1, pp. 96-118.
- Hines,C.S.,Masli,A.,Mauldin,E.G.,&Peters,G.F.(2015),”Board risk committees and audit pricing”, *Auditing: A Journal of Practice & Theory*, Vol .34 No. 4, pp.59-84.
- Hoitash,R.&U.Hoitash.(2009),”The role of audit committees in managing relationships with external auditors after SOX: Evidence from the USA”, *Managerial Auditing Journal*, Vol. 24 No.4, pp. 368-397.
- Howells,P.&Bain,K.(2008),”*The economics of money, banking and finance*. (4<sup>th</sup> ed.)”. Prentice-Hall, Essex, England.
- ImhoffJr,E.A.(2003),”Accounting quality, auditing, and corporate governance”,*Accounting Horizons*, Vol. 17 No.1, pp.117-128.
- Jin,J.Y.,Kanagaretnam,K.&Lobo,G.J.(2011),”Ability of accounting and audit quality variables to predict bank failure during the financial crisis”, *Journal of Banking and Finance*, Vol. 35 No.11, pp. 2811-2819.
- Jizi,M.,Salama,A.,Dixon,R.&Stratling,R.(2014),”Corporate governance and corporate social responsibility disclosure: Evidence from the US banking sector”,*Journal of Business Ethics*, Vol.125 No.4, pp.601-615.
- Jizi, M. & Dixon R. (2017), “Are risk management disclosures informative or tautological: Evidence from the US banking sector”, *Accounting Perspectives*, Vol.16 No.1, pp.7-30.

- Johl,S.,Subramaniam,N.,&MatZain,M.(2012),”Audit committee and CEO ethnicity and audit fees: some Malaysian evidence”, *The International Journal of Accounting*, Vol. 47 No.3,pp. 302-332.
- John,K.& Senbet,L. (1998),”Corporate governance and board effectiveness”, *Journal of Banking & Finance*,Vol.22 No. 4, pp .371-403.
- Kalbers,L.P.,&Fogarty,T.J.(1993),”Audit committee effectiveness: An empirical investigation of the contribution of power”, *Auditing: A Journal of Practice and Theory*,Vol. 12 No. 1, pp. 24-49.
- Kaplan, S. (1985), “An examination of the effects of environment and explicit internal control on planned audit hours”, *Auditing: A Journal of Practice & Theory*, Autumn, pp. 12-25.
- Karim,K.,Robin,A.,&Suh,S.(2015),”Board Structure and Audit Committee Monitoring Effects of Audit Committee Monitoring Incentives and Board Entrenchment on Audit Fees”,*Journal of Accounting, Auditing & Finance*.
- Kanagaretnam,K.,Krishnan,G.&Lobo,G.(2010),”An empirical analysis of auditor independence in the banking industry”, *The Accounting Review*,Vol.85 No. 6, pp. 2011-2046.
- Karamanou,I.,&Vafeas,N.(2005),”The association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis”,*Journal of Accounting Research*, Vol. 43 No. 3,pp. 453-486.
- Kent,P.,&Stewart,J.(2008),”Corporate governance and disclosures on the transition to International Financial Reporting Standards”,*Accounting and Finance*,Vol.48No.4,pp.649-671.
- Kim, J. B., Segal, B., Segal, D., & Zang, Y. (2016), "The Triangular Relationship Between Audit Committee Characteristics, Audit Inputs, and Financial Reporting Quality". *working paper*
- Kinney,W.,&Libby,R.(2002),”Discussion of the relation between auditors’ fees for non-audit services and earnings management”, *The Accounting Review*, Vol. 77, pp.107–114.
- Krishnamoorthy, G., & Maletta, M. (2016), "The contingent effects of board independence and audit committee effectiveness on internal audit reliance: a pre-SOX perspective", *International Journal of Accounting and Finance*, Vol. 6 No.1, pp. 62-85.
- Krishnan,J.&Visvanathan,G.(2009),”Do Auditors price audit committee’s expertise? The case of accounting versus non-accounting financial experts”, *Journal of Accounting, Auditing & Finance*, Vol. 24 No.1, pp.115–44.
- Larcker,D.F.,&Richardson,S.A.(2004),”Fees paid to audit firms, accrual choices, and corporate governance”,*Journal of Accounting Research*,Vol. 42 No.3, pp. 625-658.
- Lee,H.Y.,Mande,V.&Ortman,R.(2004),”The effect of audit committee and board of director independence on auditor resignation”,*Auditing: A Journal of Practice and Theory*,Vol. 23 No. 2 , pp.133-148.

- Leventis, S., Weetman, P. & Caramanis, C. (2011), "Agency costs and product market competition: The case of audit pricing in Greece", *The British Accounting Review*, Vol. 43 No. 2, pp. 112-119.
- Lin, Z. J., & Liu, M. (2009), "The impact of corporate governance on auditor choice: Evidence from China", *Journal of International Accounting, Auditing and Taxation*, Vol. 18 No. 1, pp. 44-59.
- Linck, J. S., Netter, J. M. & Yang, T. (2008), "The determinants of board structure" *Journal of Finance and Economics*, Vol. 87 No. 2, pp. 308-328.
- Long, T., Dulewicz, V. & Gay, K. (2005), "The role of the non-executive director: findings of an empirical investigation into the differences between listed and unlisted UK boards", *Corporate Governance: An International Review*, Vol. 13 No. 5, pp. 667-679.
- Mangena, M., & Pike, R. H. (2005), "The effect of audit committee shareholding, financial expertise and size on interim financial disclosures", *Accounting and Business Research*, Vol. 35 No. 4, pp. 327-349.
- McMullen, D. A. (1996), "Audit committee performance: An investigation of the consequences associated with audit committees", *Auditing: A Journal of Practice and Theory*, Vol. 15, pp. 1-28.
- Messier, W. F. Jr. 2000. *Auditing & Assurance Services: A Systematic Approach*, 2nd ed. Boston: Irwin/ McGraw-Hill, pp. 88-89
- Muniandy, B., (2007), "CEO duality, audit committee effectiveness and audit risks", *Managerial Auditing Journal*, Vol. 22 No. 7, p. 716.
- Nehme, R., Al Mutawa, A., Jizi, M. (2016), "Dysfunctional Behavior of External Auditors: The Collision of Time Budget and Time Deadline, Evidence from a Developing Country", *The Journal of Developing areas*, Vol. 50 No. 1, pp. 373-388.
- O'Sullivan, N., (2000), "The impact of board composition and ownership on audit quality: evidence from large UK companies", *The British Accounting Review*, Vol. 32 No. 4, pp. 397-414.
- Pathan, S. & Skully, M. (2010), "Endogenously structured boards of directors in banks", *Journal of Banking and Finance*, Vol. 34 No. 7, pp. 1590-16060.
- Redmayne, N. B., Bradbury, M. E., & Cahan, S. F. (2011), "The association between audit committees and audit fees in the public sector", *International Journal of Auditing*, Vol. 15 No. 3, pp. 301-315.
- Sharma, D. S. (2003). The efficacy of audit committee monitoring of audit quality: Tests of main and interaction effects. *Paper presented at AFAANZ Conference, Brisbane, Australia.*
- Sherman, H., Carey, D., & Brust, R. (2009), "The audit committee's new agenda", *Harvard Business Review*, Vol. 87 No. 6, pp. 92-99.

- Sikka,P.(2009),”Financial crisis and the silence of the auditors”, *Accounting, Organizations and Society*, Vol. 34 No.6, pp. 868-873.
- Srinidhi,B.N.&Gul,F.A.(2007),”The differential effects of auditors’ nonaudit and audit fees on accrual quality”,*Contemporary Accounting Research*, Vol. 24, pp.595–629.
- Stiroh,K.(2006),”New evidence on the determinants of bank risk”, *Journal of Financial Services Research*,Vol. 30, pp.237–263.
- Tsacoumis, S., Bess, S. R., & Sappington, B. A. (2003), "The Sarbanes-Oxley act: Rewriting audit committee governance", *Bus. Law International*, 212.
- Tsui, J., Jaggi, B. & Gul, F. (2001), “CEO domination, growth opportunities, and their impact on audit fees”, *Journal of Accounting, Auditing & Finance*, Vol. 16 No. 3, pp.189-208.
- Turley,S.&Zaman,M.(2007),”Audit committee effectiveness: informal processes and behavioural effects.”, *Accounting, Auditing & Accountability Journal*, Vol. 20 No.5, pp. 765–88
- Uang,J.Y.,Citron,D.B.,Sudarsanam,S.&Taffler,R.J.(2006),”Management going-concern disclosures: impact of corporate governance and auditor reputation”, *European Financial Management*,Vol. 12 No.5, pp. 789-816.
- Ussahawanitchakit,P.(2012),”Effects of Audit Planning on Audit Quality of Certified Public Accountants (CPAs) in Thailand”, *Journal of the Academy of Business & Economics*,Vol.12 No.3.
- Wallace, W.A. (1989), “Are audit fees sufficiently risk adjusted?”, *Advances in Accounting*, pp. 3-38, (Supplement 1).
- Yasin,F.&Nelson,S.(2012),”Audit Committee and Internal Audit: Implications on Audit Quality”,*International Journal of Economics, Management and Accounting* Vol. 20 No. 2, pp.187-218
- Zahra,S.A.,&Pearce,J.A.(1989),”Boards of directors and corporate financial performance: A review and integrative model”, *Journal of Management*, Vol.15 No. 2, pp.2 91-334.
- Zaman,M.,Hudaib,M.,& Haniffa,R.(2011),”Corporate governance quality, audit fees and non-audit services fees”, *Journal of Business Finance & Accounting*, Vol. 38 No.1&2, pp.165-197.

**Table 1**  
Variables definitions

<b>Variable Name</b>	<b>Variable code</b>	<b>Variable measurement</b>
Audit fees	<i>LAF</i>	Measured as the log of audit fees paid in a corresponding year.
Board size	<i>BS</i>	The number of board members.
Board independence	<i>BI</i>	The number of independent directors to the total number of board members.
Chair/CEO dual role	<i>DUAL</i>	0 if the CEO does not act as chair of the board of directors and 1 otherwise.
Board meetings	<i>BM</i>	The number of board meetings per year
Audit committee size	<i>ACS</i>	The number of members on the audit committee.
Audit committee financial expertise	<i>ACFE</i>	The number of financial experts on the audit committee.
Audit committee efficiency	<i>ACE</i>	A value of one is given if the audit committee has more than three members, and zero otherwise. A value of one is given if the audit committee has more than two financial experts, and zero otherwise. A value of one is given if the audit committee met more than eight times a year, and zero otherwise. Then, ACE variable is computed by adding up the three binary variables.
Audit committee meetings	<i>ACM</i>	The number of audit committee meetings per year.
Board independence CEO Interaction	<i>BIDUAL</i>	Interaction variable of board independence and CEO/chair dual roles.
Audit committee efficiency CEO Interaction	<i>ACEDUAL</i>	Interaction variable of audit committee efficiency and CEO/chair dual roles.
Profitability	<i>ROA</i>	Net income over total assets.
Leverage	<i>LEV</i>	Total debt over assets.
Bank's size	<i>SIZE</i>	The total assets presented in the corresponding year's balance sheet.
Audit firm size	<i>AFE</i>	1 if the audit firm is one of the Big Four audit firms and 0 otherwise.
Loan ratio	<i>LR</i>	Total loans to total assets.
Allowance for loan loss ratio	<i>ALL</i>	Allowance for loan loss to total loans.
Non-performing loans	<i>NPL</i>	Total non-performing loans to total loans

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Residential loan concentration	<i>Res. LC</i>	Total residential loans to total loans.
Commercial loan concentration	<i>Com.LC</i>	Total commercial loans to total loans.
Consumer loan concentration	<i>Con. LC</i>	Total consumer loans to total loans.

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**Table 2**  
Spearman correlation matrix

<b>Variables</b>	<b>VIF</b>	<b>BS</b>	<b>BI</b>	<b>DUAL</b>	<b>BM</b>	<b>ACS</b>	<b>ACFE</b>	<b>ACM</b>	<b>ROA</b>	<b>LEV</b>	<b>SIZE</b>	<b>AFS</b>	<b>LR</b>	<b>ALL</b>	<b>NPL</b>	<b>Res. LC</b>	<b>Com. LC</b>	<b>Con. LC</b>
<b>BS</b>	1.30	1.00																
<b>BI</b>	1.19	0.00	1.00															
<b>DUAL</b>	1.16	0.09	-0.03	1.00														
<b>BM</b>	1.33	-0.15	-0.02	-0.22	1.00													
<b>ACS</b>	1.27	0.37	0.31	0.09	-0.07	1.00												
<b>ACFE</b>	1.16	0.17	0.00	0.12	0.07	0.07	1.00											
<b>ACM</b>	1.25	0.14	0.06	0.03	0.17	0.10	0.23	1.00										
<b>ROA</b>	1.22	0.03	0.15	0.07	-0.23	0.06	-0.04	-0.06	1.00									
<b>LEV</b>	1.06	-0.12	-0.22	-0.06	-0.00	-0.12	-0.03	-0.20	-0.19	1.00								
<b>SIZE</b>	1.38	0.49	0.18	0.29	-0.11	0.22	0.31	0.43	0.19	-0.41	1.00							
<b>AFS</b>	1.32	0.27	0.19	0.21	-0.10	0.18	0.24	0.19	0.24	-0.32	0.65	1.00						
<b>LR</b>	1.32	-0.06	-0.06	0.01	0.03	0.08	-0.05	0.09	-0.08	-0.06	-0.18	0.08	1.00					
<b>ALL</b>	1.78	0.01	-0.05	-0.02	0.21	-0.06	0.12	0.08	-0.67	0.10	0.04	-0.06	-0.02	1.00				
<b>NPL</b>	1.57	-0.11	-0.10	-0.07	0.21	-0.16	0.05	0.06	-0.58	0.20	-0.10	-0.21	-0.02	0.55	1.00			
<b>Res. LC</b>	3.05	-0.04	-0.13	-0.08	0.08	-0.06	-0.05	-0.13	-0.07	0.12	-0.33	-0.31	0.10	0.01	0.06	1.00		
<b>Com. LC</b>	3.47	0.06	0.16	0.12	-0.09	0.13	0.04	-0.02	0.22	-0.03	0.28	0.18	-0.23	-0.10	-0.17	-0.34	1.00	
<b>Con. LC</b>	2.95	-0.05	-0.12	-0.01	0.00	-0.05	-0.05	0.01	-0.19	-0.03	0.06	0.01	0.02	0.01	0.09	-0.45	-0.41	1.00

**Table 3**

Summary descriptive statistics

	Audit fees (in 1000s)	BS	BI	DUAL	BM	ACS	ACFE	ACM	ROA	LEV	SIZE (in millions)	AFS	ALL	LR	NPL	Res. LC	Com. LC	Cons. LC
<b>Mean</b>	3,758	12.4	0.81	0.43	11.0 3	4.50	1.78	8.43	-0.1	0.90	94,673	0.56	2.11	0.61	3.59	0.26	0.56	0.16
<b>Median</b>	628.5	12.0	0.82	0	11	4	1	8	0.52	0.90	3,954	1	1.51	0.63	2.70	0.24	0.57	0.12
<b>SD</b>	13,300	3.10	0.1	0.50	5.0	1.17	1.26	3.53	1.77	0.06	377,888	0.5	2.15	0.19	3.14	0.16	0.18	0.16
<b>Skewness</b>	5.32	0.30	-0.82	0.30	1.52	1.02	1.43	0.57	-2.1	-10.2	4.8	-0.23	2.49	-1.64	2.39	0.93	-0.44	1.64
<b>Kurtosis</b>	32.4	2.99	2.96	1.10	7.12	4.07	5.27	2.57	7.86	151	24.9	1.05	12.39	7.04	12.1	4.14	2.86	6.03
<b>Minimum</b>	78.1	5	0.5	0	4	3	0	3	-9.53	0.08	505	0	0.05	0.36	0.07	0.005	0.041	0.003
<b>Maximum</b>	96,600	21	0.94	1	34	9	7	21	4.52	1.05	2,265,792	1	15.04	0.88	25.3	0.91	0.93	0.85

**Table 4**

Fixed-effect panel linear regression with robust standard error estimating the relationships between corporate governance variables and audit fees

Independent variables	Coeff. <i>p</i> -value				
	(1)	(2)	(3)	(4)	(5)
Constant	<b>9.60***</b> (0.008)	<b>10.51***</b> (0.004)	<b>10.43***</b> (0.005)	<b>11.42***</b> (0.005)	<b>13.13***</b> (0.007)
BS	<b>0.059**</b> (0.005)	<b>0.063**</b> (0.017)	<b>0.068***</b> (0.008)	<b>0.067**</b> (0.014)	<b>0.064**</b> (0.013)
BI	<b>0.39**</b> (0.012)	0.14 (0.386)	0.15 (0.247)	<b>-1.21**</b> (0.047)	0.110 (0.418)
DUAL	<b>0.24**</b> (0.023)	<b>0.22*</b> (0.087)	<b>0.23*</b> (0.078)	<b>-2.39**</b> (0.042)	-0.170 (0.156)
BM	-0.001 (0.989)	0.007 (0.462)	0.007 (0.545)	-0.001 (0.725)	-0.003 (0.805)
BIDUAL				<b>3.11**</b> (0.036)	
ACE					<b>0.120**</b> (0.035)
ACEDUAL					<b>0.224***</b> (0.004)
ACS	0.04 (0.225)	0.04 (0.202)	0.04 (0.225)	<b>0.04*</b> (0.093)	
ACFE	<b>0.03**</b> (0.038)	<b>0.024*</b> (0.069)	<b>0.021*</b> (0.078)	<b>0.038**</b> (0.032)	
ACM	<b>0.062***</b> (0.006)	<b>0.069***</b> (0.004)	<b>0.069***</b> (0.003)	<b>0.06***</b> (0.001)	
ROA	-0.03 (0.421)	-0.03 (0.389)	-0.03 (0.497)	-0.03 (0.478)	-0.04 (0.500)
LAV	-1.21 (0.337)	-1.37 (0.259)	-1.36 (0.258)	-1.35 (0.275)	-1.55 (0.176)
Size	<b>0.00***</b> (0.001)	<b>0.00***</b> (0.002)	<b>0.00***</b> (0.002)	<b>0.00***</b> (0.002)	<b>0.00***</b> (0.000)
AFS	<b>1.04***</b> (0.002)	<b>0.89***</b> (0.004)	<b>0.91***</b> (0.004)	<b>1.04***</b> (0.001)	<b>0.92***</b> (0.005)
ALL	0.03 (0.373)	0.03 (0.255)	0.04 (0.269)	0.04 (0.191)	0.04 (0.275)
NPL	0.03 (0.144)	0.03 (0.214)	0.03 (0.206)	0.03 (0.224)	0.03 (0.267)
LR	0.21 (0.518)		0.25 (0.336)	0.09 (0.630)	0.49 (0.185)
Res. LC		<b>-1.26**</b> (0.010)	<b>-1.27**</b> (0.010)	<b>-1.17***</b> (0.000)	<b>-1.37***</b> (0.008)
Com. LC		<b>-0.56**</b> (0.022)	<b>-0.57**</b> (0.034)	<b>-0.51*</b> (0.056)	-0.45 (0.126)
Con. LC		0.01 (0.977)	0.012 (0.971)	0.04 (0.919)	-0.20 (0.655)
R- squared	0.77	0.79	0.79	0.80	0.78
Number of observations	664	664	664	664	664

\* p\0.1, \*\* p\0.05, \*\*\* p\0.01; p-values in brackets

**Table 5**

Fixed-effect panel linear regression with robust standard error controlling for the effect of auditor–audit client economic bond

Independent variables	Coeff. <i>p</i> -value					
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Constant</b>	<b>10.62***</b> (0.004)	<b>11.53***</b> (0.004)	<b>13.47***</b> (0.005)	<b>12.42***</b> (0.002)	<b>13.63***</b> (0.003)	<b>13.35***</b> (0.004)
<b>BS</b>	<b>0.06**</b> (0.017)	<b>0.06**</b> (0.015)	<b>0.05**</b> (0.022)	<b>0.07**</b> (0.025)	<b>0.07**</b> (0.027)	<b>0.07**</b> (0.020)
<b>BI</b>	0.10 (0.442)	<b>-1.22**</b> (0.028)	0.09 (0.472)	0.18 (0.600)	<b>-1.50**</b> (0.031)	0.19 (0.417)
<b>DUAL</b>	<b>0.20*</b> (0.096)	<b>-2.35**</b> (0.025)	<b>-0.18*</b> (0.145)	<b>0.26*</b> (0.053)	<b>-3.01***</b> (0.005)	-0.21 (0.193)
<b>BM</b>	0.004 (0.521)	0.002 (0.791)	0.005 (0.639)	0.011 (0.203)	0.005 (0.491)	0.01 (0.247)
<b>BIDUAL</b>		<b>3.04**</b> (0.024)			<b>4.01***</b> (0.007)	
<b>ACE</b>			<b>0.12**</b> (0.045)			0.07 (0.352)
<b>ACEDUAL</b>			<b>0.22***</b> (0.001)			<b>0.27**</b> (0.014)
<b>ACS</b>	0.03 (0.227)	<b>0.03*</b> (0.062)		0.05 (0.171)	<b>0.05*</b> (0.067)	
<b>ACFE</b>	<b>0.02**</b> (0.034)	<b>0.04**</b> (0.039)		<b>0.02***</b> (0.005)	<b>0.04*</b> (0.097)	
<b>ACM</b>	<b>0.05***</b> (0.003)	<b>0.06***</b> (0.003)		<b>0.06***</b> (0.008)	<b>0.06***</b> (0.003)	
<b>ROA</b>	-0.03 (0.502)	-0.03 (0.554)	-0.04 (0.409)	-0.04 (0.532)	-0.03 (0.599)	-0.05 (0.404)
<b>LEV</b>	-1.32 (0.253)	-1.32 (0.272)	-1.53 (0.215)	-1.20 (0.255)	-1.20 (0.283)	-1.49 (0.204)
<b>Size</b>	<b>0.00***</b> (0.003)	<b>0.00***</b> (0.003)	<b>0.00***</b> (0.001)	<b>0.00***</b> (0.002)	<b>0.00***</b> (0.002)	<b>0.00***</b> (0.000)
<b>AFS</b>	<b>0.96***</b> (0.006)	<b>1.01***</b> (0.002)	<b>0.95***</b> (0.006)	<b>0.95***</b> (0.002)	<b>1.01***</b> (0.000)	<b>0.93***</b> (0.001)
<b>ALL</b>	0.03 (0.321)	0.04 (0.221)	0.03 (0.306)	0.05 (0.102)	<b>0.05*</b> (0.068)	0.04 (0.166)
<b>NPL</b>	0.03 (0.172)	0.03 (0.190)	0.03 (0.265)	0.03 (0.286)	0.03 (0.294)	0.04 (0.351)
<b>Res. LC</b>	<b>-1.32***</b> (0.006)	<b>-1.11***</b> (0.000)	<b>-1.36***</b> (0.007)	<b>-1.48***</b> (0.004)	<b>-1.20***</b> (0.006)	<b>-1.45***</b> (0.001)
<b>Com. LC</b>	<b>-0.57**</b> (0.016)	<b>-0.54**</b> (0.043)	<b>-0.46*</b> (0.086)	<b>-0.68***</b> (0.005)	<b>0.56*</b> (0.065)	<b>-0.56*</b> (0.073)
<b>Con. LC</b>	-0.01 (0.897)	0.02 (0.864)	-0.20 (0.652)	-0.08 (0.806)	-0.02 (0.967)	-0.28 (0.551)
<b>Non-audit fees to total fees</b>	0.63 (0.351)	0.42 (0.531)	0.01 (0.990)			
<b>Audit fees to total fees</b>				0.001 (0.933)	0.001 (0.637)	0.001 (0.992)
<b>R- squared</b>	0.79	0.80	0.78	0.82	0.83	0.72

\* p\0.1, \*\* p\0.05, \*\*\* p\0.01; *p*-values in brackets

**Table 6**

Fixed-effect panel linear regression with robust standard error estimating the association between board monitoring and audit fees in two groups. The first group includes firms having CEO duality while the second group of firms separated the roles.

Independent variables	Coeff. <i>p</i> -value	Coeff. <i>p</i> -value
	(CEO duality exists)	(CEO duality does not exist)
<b>Constant</b>	<b>9.25***</b> (0.003)	<b>15.15***</b> (0.006)
<b>BS</b>	0.10** (0.010)	0.33 (0.252)
<b>BI</b>	<b>2.25*</b> (0.064)	<b>-1.28**</b> (0.025)
<b>BM</b>	0.02 (0.355)	-0.01 (0.707)
<b>ACS</b>	0.07 (0.165)	-0.01 (0.614)
<b>ACFE</b>	<b>0.035*</b> (0.092)	<b>0.09*</b> (0.056)
<b>ACM</b>	<b>0.06*</b> (0.069)	<b>0.05**</b> (0.038)
<b>ROA</b>	0.098 (0.342)	-0.06 (0.196)
<b>LEV</b>	<b>-0.54*</b> (0.087)	-2.51 (0.180)
<b>Size</b>	0.001*** (0.002)	<b>0.001***</b> (0.004)
<b>AFS</b>	<b>1.15***</b> (0.006)	<b>0.96***</b> (0.003)
<b>ALL</b>	<b>0.17*</b> (0.062)	<b>0.02*</b> (0.085)
<b>NPL</b>	0.03 (0.447)	0.03 (0.163)
<b>Res. LC</b>	-0.76 (0.221)	<b>-0.86*</b> (0.052)
<b>Com. LC</b>	-0.53 (0.175)	-0.06 (0.141)
<b>Con. LC</b>	0.27 (0.659)	0.39 (0.201)
<b>R- squared</b>	0.80	0.83

\* p\0.1, \*\* p\0.05, \*\*\* p\0.01; p-values in brackets

**Table 7**  
ANOVA analysis

<b>Board Independence</b>	<b>Audit committee efficiency</b>	<b>Mean</b>	<b>Std. Deviation</b>
Low	Low	13.218	1.059
Low	High	13.688	0.907
High	Low	12.942	0.898
High	High	14.826	1.597