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Adel AlQadasi, Shamharir Abidin,

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The effectiveness of internal corporate governance and audit quality: the role of ownership concentration – Malaysian evidence

Adel AlQadasi and Shamharir Abidin

Abstract

Purpose – This study is motivated by the competing views on whether internal governance mechanisms complement or substitute for external auditing, and how this association is affected by ownership concentration. The complementary view predicts that good internal governance mechanisms are related to high-quality audit. On the other hand, corporate governance mechanisms may be substituted for each other, so more investment in governance mechanisms leads to less investment in external auditing. Therefore, this study aims to examine the association between internal governance mechanisms and the demand for audit quality.

Design/methodology/approach – Data from Malaysian listed companies during the period 2009 to 2012 are used. Ordinary least square (OLS) regression is applied to analyse the data.

Findings – Companies with a higher concentration of ownership are less likely to demand extensive auditing. In addition, the study provides supporting evidence for the complementary association between a company's governance and audit fees. However, the ownership concentration plays a minor role in the positive association between internal corporate governance and audit quality. Further tests are conducted and support the main findings.

Practical implications – Significant implications are provided for the audit profession in emerging economies, where concentrated ownership is common, to help policymakers and regulators in determining the power of controlling shareholders on audit quality and firm's governance. The study's findings open up avenues for further research.

Originality/value – This is the first work to address the role of ownership concentration in the association between corporate governance and audit quality; it suggests that the ownership structure must be considered in examining the effectiveness of corporate governance. The study also provides a comprehensive combination of internal governance mechanisms.

Keywords Malaysia, Corporate governance, Audit fees, Audit quality, Ownership concentration

Paper type Research paper

Adel AlQadasi is Assistant Professor at the College of Science and Humanities in Al-Dawadmi, Shaqra University, Al-Dawadmi, Saudi Arabia and at the Hodeidah University, Hodeidah, Yemen. Shamharir Abidin is Associate Professor at the Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia, Sintok, Malaysia.

1. Introduction

Audit is the cornerstone of corporate governance (Cadbury, 1992). However, its efficiency depends on the actuality and development of the corporate governance environment (Holm and Laursen, 2007). Good corporate governance has enticing properties, demanding a high level of audit quality by company managers (Lin and Liu, 2009). Fan and Wong (2005) confirm that companies demand a high level of audit quality to enhance their governance. Nevertheless, national differences in ownership structure could make companies' governance more flexible and responsive to local features. This variety in corporate governance and how corporate governance is conceptualised are still hotly debated

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(Aguilera and Jackson, 2003; Gedajlovic and Shapiro, 2002; Desender *et al.*, 2013; O'Sullivan, 2000; Shleifer and Vishny, 1997). Aguilera and Jackson (2003) state that the degree of ownership concentration (OC) increases the external pressures on management, while diffused ownership reassures the shareholder voice.

Corporate governance is defined as a set of interrelated mechanisms that has strategic or institutional complementarities to align the conflict of interests between principals and agents; this is dependent on certain combinations, including ownership structure (Aguilera *et al.*, 2008; Desender *et al.*, 2013). Ownership structure plays a major role in the effectiveness of corporate governance mechanisms, where OC could mitigate or exacerbate agency problems that affect governance (Setia-Atmaja, 2009). Shleifer and Vishny (1986) state that the controlling shareholders have more incentives and power to monitor the company's managers, contributing to the reduction of agency problems. However, Shleifer and Vishny (1997) argue that major shareholders could expropriate the wealth of minority shareholders in concentrated ownership settings. Different governance mechanisms are applied to monitor agents and shareholders, such as external auditors, where the external auditor provides a significant monitoring role in testing the credibility of financial statements provided by management on behalf of the shareholders (Lin and Liu, 2009; Watts and Zimmerman, 1983).

Malaysia is an interesting case for studying the role of corporate governance in demanding audit quality because of the dominance of blockholders in listed companies. Malaysian listed companies, with their ownership concentrated in families, individuals and the government, are thus differentiated from their Western counterparts (Hasnan *et al.*, 2013). According to agency theory, agency conflicts occur between principals and agents because of widely dispersed ownership and the separation of shareholders and management (Jensen and Meckling, 1976). However, agency conflicts also occur between majority and minority shareholders as a result of concentrating the shareholdings in the hands of a few shareholders on account of other shareholders (Claessens *et al.*, 2002; Claessens and Fan, 2002; Shleifer and Vishny, 1997). Consequently, Claessens *et al.* (2000) and Hay *et al.* (2008) argue that companies with concentrated ownership are run by the major shareholders, who play a significant role in their decision-making processes. Shleifer and Vishny (1997) propose that major shareholders are considered a corporate governance mechanism. A company with active shareholders who hold a large proportion of shares and participate in the company's strategic direction is a signal of holding a good control and governance structure (Jensen, 1993). Thus, majority shareholders may demand a higher audit quality to monitor their investment or to signal non-expropriation behaviour (Fan and Wong, 2005; Hay *et al.*, 2008). In addition, minority shareholders might demand an extensive audit service to protect themselves from the expropriation of major shareholders (Hay *et al.*, 2008). Hence, OC is a significant feature in the Malaysian setting (Claessens *et al.*, 2000), although it is questionable to explain the demand for corporate governance by using agency theory in an emerging market like Malaysia, where conflicts of interest shift from owner–management to owner–owner.

Motivation for this study comes from the unique institutional settings of Malaysia, where companies are dominated by controlling shareholders in a concentrated ownership structure. As a result, managers are more likely to be under pressure and stricter supervision by dominant shareholders. These organisational and environmental characteristics might determine effective corporate governance (Desender *et al.*, 2013). Thus, these unique features present a fruitful opportunity to examine the impact of corporate governance on the demand for audit quality.

To the best of our knowledge, this is the first work to examine a comprehensive combination of governance mechanisms including board of directors and audit committee characteristics, and internal audit function (IAF) attributes with the demand for audit quality. It extends the work of Wahab *et al.* (2011) and Srinidhi *et al.* (2014) by including the IAF's

attributes (costs and sourcing arrangements) to measure the effectiveness of a company's governance. The IAF is considered one of the key pillars of the governance structure of public and private companies (Gramling *et al.*, 2004). Prawitt *et al.* (2009) emphasise the role of IAF in corporate governance for enhancing financial reporting quality. In Malaysia, the role of IAF in financial reporting and corporate governance is the concern of the regulatory authorities, where all listed companies have been mandated to establish an IAF since 2007 (Wan-Hussin and Bamahros, 2013). The Bursa Malaysia Listing Requirements (BMLR) (n.d.) ruled that all listed companies establish an IAF, under Part F Para 15.27 (1). Also, Chapter 9 Appendix 9C Part A (Paragraph 30) of the BMLR indicates that all listed companies are required to disclose whether the IAF is performed in-house or is outsourced, and the costs incurred for IAF in a fiscal year.

The literature suggests that firms with strong corporate governance tend to engage high-quality auditors and pay larger audit fees (DeFond and Zhang, 2014). This paper, therefore, contributes to expanding the literature by addressing the role of OC in this association and proffering novel insights into which conditions the corporate governance mechanisms will demand audit quality. It is argued that any measurement of the effectiveness of a firm's governance should not overlook the associated contingencies of ownership structure (Bebchuk and Hamdani, 2009; Desender *et al.*, 2013). This paper further contributes to the audit literature by using a composite measure of governance mechanisms, which is stronger than individual measurement (O'Sullivan *et al.*, 2008). Srinidhi *et al.* (2014) reveal that using an aggregate measure will decrease the error from using individual structural measures.

OC varies across companies, according to whether the company is dominated by insider shareholders or by outsider shareholders who are unrelated to management. This paper also enriches the corporate governance and audit literature by examining whether the presence of dominant insider or outsider shareholders might influence the association between corporate governance and audit quality. It is argued that substantial insider shareholders, as members of the firm's management, have enough power and position to enable them to influence the policies of their companies (Fraile and Fradejas, 2014; Fama and Jensen, 1983). This could minimise their incentive to monitor the managers. However, the majority outsider shareholders have more incentives and ability to monitor the firm's managers (McKnight and Weir, 2009; Mustapha and Ahmad, 2013; Singh and Davidson, 2003). Arguably, the external shareholders could favour more extensive audit and effective internal governance mechanisms to maximise the monitoring on managers.

Using a sample of 2,176 firm-year observations from Malaysian companies listed on the Bursa Malaysia from 2009 to 2012, this paper explores the impact of OC and the effectiveness of internal corporate governance on the demand for audit quality, with audit fees as proxy, and how the OC could affect the complementary association between the internal corporate governance mechanisms and external auditing. The findings show that firms with greater OC, whether insider or outsider, are less interested in demanding extensive audit service and in paying lower audit fees. This is consistent with the findings of previous studies (Khan *et al.*, 2011, 2015; Lin and Liu, 2009). We also provide empirical support to the view that the control mechanisms complement each other, where a firm with effective internal governance mechanisms is more likely to demand high audit quality, which ultimately results in higher audit fees. This result is consistent with the findings of other authors (i.e. Abbott *et al.*, 2003; Carcello *et al.*, 2002; Hay *et al.*, 2008; Srinidhi *et al.*, 2014; Wahab *et al.*, 2011). However, this association is reduced by existing controlling shareholders, where our results indicate that the OC, particularly the presence of insider controlling shareholders, negatively affects the positive association between governance and audit fees. Thus, this result supports the view that the ownership structure should be

considered in studying the effectiveness of corporate governance mechanisms (Desender *et al.*, 2013).

The remainder of this paper is organised as follows. The next section is the literature review and hypothesis development. Section 3 describes the data and research design, while Section 4 presents the findings of the study. Finally, Section 5 provides the conclusion.

2. Literature review and hypothesis development

2.1 Literature review

DeFond and Zhang (2014) provide a comprehensive review of the audit quality literature. They recommend further empirical endeavours on the role of the auditee's competency in driving audit quality; they defined the competencies of auditees by their mechanism, i.e. a corporate governance system that helps in meeting their demand for audit quality. In addition, Hay *et al.* (2006) suggest that studying different forms of ownership (e.g. types of controlling shareholders) could benefit and enrich audit research. Hay (2013) further argues that there is a lack of literature highlighting the effect of ownership and institutional structures on audit research, particularly audit fees. O'Sullivan (2000) reveals that firms with blockholders possess financial incentives to demand extensive auditing and therefore pay higher audit fees. Mitra *et al.* (2007) argue that managers tend to demand higher quality audit services when the ownership is more concentrated. However, Lin and Liu (2009) examine the impact of OC on auditor choice in the Chinese context. They predict that the controlling shareholders are more likely to hire a low-quality auditor. Mitra *et al.* (2007) study how the diversity of forms of ownership structure (i.e. managerial ownership, diffused individual and institutional shareholders and institutional and non-institutional blockholders) influences the audit fees from the demand and supply perspectives. Their results indicate that institutional blockholders who holds 5 per cent or more shares and managerial ownership are negatively related to audit fees. All mentioned studies are conducted in Western context, where the diffused ownership is common.

There is a lack of research exploring the impact of governance mechanisms on the demand for audit quality in firms controlled by majority shareholders. Recently, Srinidhi *et al.* (2014) investigated the auditor choice in the US family companies. They find that family firms with good board governance tend to demand a higher audit quality by choosing specialist auditors and paying higher audit fees. Ho and Kang (2013) conclude that the likelihood of family firms appointing top-tier audit firms and paying high audit fees is less than in non-family firms, owing to the less severe agency problems between owners and managers in family firms (data from Standard and Poor's (S&P) 1500 firms in the USA). Niskanen *et al.* (2010) addressed the role of family ownership on the demand for audit quality in a sample of small private firms. They find that a family firm is less likely to choose a Big 4 audit firm. These concerns of audit researchers in investigating the role of governance on audit quality in ownership-controlled companies in the Western context reflect a fruitful avenue of research in developing countries, where concentrated ownership is common.

In an emerging market, Khan *et al.* (2015) examine the auditor choice in the listed companies in Bangladesh, where family-owned firms are dominant. Their results show that family companies hire lower quality auditors and consequently pay lower audit fees. However, they find that managers of family companies with export-oriented industries tend to appoint specialist auditors and pay higher audit fees. Fan and Wong (2005) find that companies in eight East Asian economies with a greater agency problem are more likely to hire Big 5 (now Big 4) audit firms. Interestingly, Malaysia is a promising area for examining the role of corporate governance in demanding audit quality because of its particular ownership structure. Like other emerging market economies, Malaysia is characterised by the dominance of family, government and institutional investors in listed companies. Few studies have investigated the role of corporate governance in demanding audit quality in

Malaysia. [Wahab et al. \(2011\)](#) examine the effect of political connection and corporate governance on audit fees, from a sample of 382 non-financial firms 2001 to 2003. They find that firms that have political connections and good governance demand a high audit quality, resulting in paying higher audit fees. [Zalailah et al. \(2006\)](#) report that independent directors are positively related to audit quality.

In sum, inconsistent results in the role of firms' governance in audit quality might be because of the differences in ownership structure among firms. Moreover, none of the previous studies examined the key pillars of governance structure in a single study: board of directors, audit committee and IAF; or how OC might influence its effectiveness. To the best of our knowledge, this paper is one of the few studies investigating the role of OC in the relationship between firm's governance and audit quality.

2.2 Hypothesis development

2.2.1 Ownership concentration and audit quality. Regarding the prediction of agency theory, claiming that agency conflicts are driven by widely dispersed ownership and the separation of shareholders and management ([Jensen and Meckling, 1976](#); [DeFond, 1992](#)), [Watts and Zimmerman \(1983\)](#) argue that the conflicts of interest between agents and principals increases the demand for the audit quality, which is common in diffusely owned firms. However, firms with concentrated ownership have less severe traditional agency problems and controlling shareholders have more incentives to maximise the firm's value and its ability to monitor managers ([Claessens et al., 2002](#)). An entrenchment problem could be created with tight control, where the majority shareholders' large holdings enable them to expropriate the minority shareholders' interests. However, the major shareholders could signal their non-expropriation by demanding a high-quality auditor ([Fan and Wong, 2005](#)). [Fan and Wong \(2005\)](#) find that companies in eight East Asian countries are more likely to engage Big 5 (Big 4) auditors with more entrenchment problems. [Hay et al. \(2008\)](#) argue that the presence of controlling shareholders could lead to a demand for extensive audit service to monitor their interests, and to protect the interests of minority shareholders. They also conclude that with more concentration in ownership and a less regulated environment, investment in monitoring mechanisms including external audit will increase. However, [Khan et al. \(2011\)](#) report a negative association between OC and audit fees for Bangladeshi firms. [Lin and Liu \(2009\)](#) conclude that Chinese firms with larger shareholders are less likely to engage a higher auditor quality. The institutional context of Malaysia is characterised by the dominance of family, government and individuals ([Hasnan et al., 2013](#)). [Mustapha and Ahmad \(2013\)](#) find that Malaysian blockholders are positively related to the demand for higher monitoring costs, including directors' remuneration, audit fees and IAF costs.

On the basis of the competing and alternative predictions of the demand for audit quality in firms with concentrated ownership, the following hypothesis is proposed:

H1. There is a relationship between ownership concentration and audit quality.

The controlling shareholders could be insider shareholders or outsider shareholders with no relationship with the management. The presence of a substantial number of insider shareholders could either align agency problems between management and shareholders or exacerbate agency problems between majority and minority shareholders. According to the alignment view, insider controlling shareholders could be a part of management and directly monitor the managers' activities. [Srinidhi et al. \(2014\)](#) argue that controlling insider shareholders are less dependent on public information in assessing their investment, so managers may be less likely to dedicate effort and care in preparing the financial statements. Thus, this type of firm could be less dependent on the financial statements to evaluate the performance of managers and, consequently, the managers feel less able to mislead the insider controlling shareholders. So it can be suggested that insider controlling owners are less likely to demand extensive audit services and, as a result, pay lower audit

fees. [Khan et al. \(2015\)](#) find that Bangladeshi family firms are less likely to engage high-quality auditors or pay higher audit fees.

However, the expropriation prediction suggests that with more powerful incentives, the insider controlling shareholders could expropriate minority shareholders' wealth ([Faccio and Lang, 2002](#)). Therefore, the minority shareholders and other users of financial reports could demand more monitoring mechanisms to protect their interests. [Kang \(2014\)](#) finds that US family companies are more likely to hire industry-specialist audit firms than non-family companies. In Malaysia, [Mustapha and Ahmad \(2013\)](#) state that minority shareholders could demand more monitoring costs with an increase in the shareholdings of blockholders.

From the above discussion, the following hypothesis is stated:

H1a. Firms with majority insider shareholders are less likely to demand high audit quality.

The major outsider shareholders with their large shareholdings, to avoid the possible cost of any misleading actions by managers, have more financial incentive to maximise their monitoring of management ([O'Sullivan, 2000](#)). [Mitra et al. \(2007\)](#) argue that blockholders, as part of their monitoring, could induce managers to demand extensive audit services to increase the reliability of financial information, reduce the probability of fraudulent financial reporting and attract large investors. There are conflicting findings in the literature of outsider controlling shareholders and audit quality. [O'Sullivan \(2000\)](#) finds no evidence of the influence of outsider controlling shareholders on audit fees for UK firms. However, [Mitra et al. \(2007\)](#) find that the institutional blockholders' ownership is negatively related to audit fees. They also find no evidence of an association between the individual blockholders and audit fees. [Mustapha and Ahmad \(2013\)](#) conclude that Malaysian blockholders demand more monitoring with an increase in their shareholdings.

From the above discussion, this paper states the following hypothesis:

H1b. There is a relationship between major outsider shareholders and the demand for audit quality.

2.2.2 Corporate governance and audit quality. In the accounting literature, two competing views attempt to explain the association between the internal governance mechanisms and external auditing. On one hand, good corporate governance might reduce the demand for extensive audit services, reducing the audit fees. In this substitution scenario, a stronger internal monitoring environment is substituted for the auditors' work, reducing the demand for a high audit quality ([Hay et al., 2008](#)). [Dopuch \(1984\)](#) states that the demand for audit quality could be substituted by other monitoring mechanisms. It is argued that the attribute of substitution for a company's governance instruments is affected by the features of the company: assets-in-place versus growth ([Anderson et al., 1993](#)). [Anderson et al. \(1993\)](#) find that more stable companies utilise audit mechanisms more than directorships, and they invest more in internal audit function on account of external auditing.

On the other hand, earlier studies provide consistent evidence with the view that good corporate governance is related positively with the demand for audit quality ([Srinidhi et al., 2014](#)). According to the complementary view, the monitoring mechanisms complement each other, with more investment in one mechanism leading to greater investment in the other. For instance, auditees with good internal governance mechanisms are more likely to hire a brand name and specialist auditor ([Abbott and Parker, 2000](#); [Beasley and Salterio, 2001](#); [Srinidhi et al., 2014](#)), change to Big 4 auditors ([Cassell et al., 2012](#)) and pay higher audit fees ([Abbott et al., 2003](#); [Carcello et al., 2002](#); [Hay et al., 2008](#); [Srinidhi et al., 2014](#); [Wahab et al., 2011](#); [Zalailah et al., 2006](#)).

This study is disposed to support the complementary view, where East Asian firms including Malaysian firms tend to signal their non-expropriation behaviour by demanding a higher audit quality ([Fan and Wong, 2005](#)). The aggregate measurement of firm's

governance composites the indicators of governance effectiveness, board size, board independence, board diligence, board expertise, audit committee size, audit committee independence, audit committee diligence, audit committee expertise, investment in IAF and IAF arrangements. Thus, companies with effective board and audit committee, more investment in IAF and in-house IAF are more likely to demand higher audit quality. Thus, the following hypothesis is proposed:

H2. Firms with strong corporate governance are more likely to demand an extensive audit service and pay higher audit fees.

2.2.3 The role of ownership concentration in the relationship between the internal governance mechanism and audit quality. National differences in corporate governance and how governance should best be implemented are still being debated (Desender *et al.*, 2013; Gedajlovic and Shapiro, 2002; O'Sullivan, 2000; Shleifer and Vishny, 1997). A firm's ownership structure is considered the main component of its corporate governance. The structure of ownership is diverse across countries and companies, with dispersed ownership more prevalent in the USA and UK than in East Asian countries, where OC is common (Claessens *et al.*, 2000; Claessens and Fan, 2002; Fan and Wong, 2005). Aguilera (2005) argues that with dispersed ownership, the board's monitoring role of management is stronger than that in firms with concentrated ownership. Therefore, firms without dominant shareholders are expected to possess good corporate governance mechanisms with directors more skilled in monitoring. This emphasises the positive association between internal governance mechanisms and the demand for audit quality, where the skilled directors might seek to have both effective internal mechanisms and more extensive auditing to stress their monitoring role and increase the audit quality. Nevertheless, in firms with concentrated ownership there is more power in the hands of the dominant shareholders to monitor the managers, leading to a reduction in the monitoring role of other corporate governance mechanisms (Bozec and Bozec, 2007). Controlling shareholders is considered an internal governance mechanism, which could influence the formation of the corporate governance system, where they possess monitoring abilities beyond the other mechanisms of the corporate governance. Thus, controlling shareholders have the ability to control the misalignment of firms' managers and shareholders beyond the internal governance mechanisms, which is likely to reduce the positive association between internal governance mechanisms and the demand for audit quality.

However, the presence of controlling shareholders could create a new agency problem as a result of the conflict of interests between the majority and minority shareholders, with dominant shareholders expropriating the wealth of minority shareholders (La Porta *et al.*, 2000; Shleifer and Vishny, 1997). Bozec and Bozec (2007) argue that the controlling shareholders have incentives to maintain weak internal controls to facilitate their expropriation. Alternatively, they could demand a higher audit quality to signal their non-expropriation behaviour (Fan and Wong, 2005).

From the above discussion, the following hypothesis is proposed:

H3. The ownership concentration moderates the relationship between the firm's governance and the demand for audit quality.

Bebchuk and Hamdani (2009) document that OC affects the number of corporate governance mechanisms. Jensen and Meckling (1976) argue that increased insider ownership is expected to increase the firm's value. Dominant insider shareholders can participate actively in the operations and decision-making activities, and serve in senior managerial positions that reduce the opportunity of managers to mislead investors. This reduces the reliance of insider shareholders on the internal governance monitoring mechanisms in monitoring the firm's managers. Ali *et al.* (2007) argue that firms that are controlled by majority insider shareholders depend less on accounting reports in estimating the performance of management. This may reflect the composition and

effectiveness of internal governance mechanisms. [Setia-Atmaja \(2009\)](#) argues that large shareholders may favour fewer independent directors on the board and audit committee. [Mendez and Garcia \(2007\)](#) find a negative association between the activity of the audit committee and OC. In addition, insider controlling shareholders usually have senior managerial positions, and no incentive to distort accruals or mislead investors through manipulating financial results. Thus, the managers will produce a good quality of accounting information, which is likely to reduce the demand for intensive audit services and payment of high audit fees. Thus, the association between internal governance mechanisms and the demand for audit quality could be reduced.

However, the wealth of minority shareholders could be expropriated by major shareholders in concentrated ownership firms ([Shleifer and Vishny, 1997](#)). [La Porta et al. \(2000\)](#) and [Shleifer and Vishny \(1997\)](#) predict that expropriation of minority shareholders' interests is usually performed by insiders. Insider controlling shareholders can easily make some self-dealing transactions to increase their wealth at the expense of minority shareholders, such as selling the assets or merchandise to a firm at below market price, appointing unqualified family members to managerial positions or overpaying executives ([Setia-Atmaja, 2009](#)). Thus, this unique association of closed-holder firms could result in adverse effects if the insider controlling shareholders make expropriation decisions at the expense of minority shareholders ([Lansberg, 1983](#); [Srinidhi et al., 2014](#)). Therefore, the major insider shareholders could easily expropriate the wealth of minority shareholders by holding ineffective governance mechanisms and demanding lower audit quality.

From the above arguments, the following hypothesis proposes that the following:

H3a. The presence of insider controlling shareholders could affect the relationship between a firm's governance and the demand for audit quality.

[Shleifer and Vishny \(1997\)](#) argue that effective corporate governance depends largely on OC. It is argued that outsider owners have more incentives to align the interests of managers and owners ([Li and Simerly, 1998](#)). [Jensen \(1993\)](#) and [Shleifer and Vishny \(1986\)](#) claim that major outsider shareholders possess greater incentives to monitor the firm's managers, participate actively in strategic decisions and serve as an additional control mechanism. Larger shareholders have access to private value-relevant information ([Heflin and Shaw, 2000](#)), participate in setting corporate policy with managers ([Davies, 2001](#)) and can influence the process of nominating and electing directors ([Bebchuk and Hamdani, 2009](#)). Generally, the major outsider shareholders are not part of management (as institutions or individuals), so they may or may not support the decisions of the firm's managers. A larger shareholder is considered an effective monitoring mechanism, driving managers to implement policies that might conflict with the manager's personal wishes ([Fosberg, 2004](#)). Therefore, the presence of substantial outsider shareholders as a control mechanism could reduce the need for monitoring by other mechanisms such as the board, audit committee, IAF or external auditing. [Desender et al. \(2013\)](#) argue that the presence of controlling shareholders might reduce reliance on the board of directors in monitoring. They conclude that in this case, independent directors are less likely to dedicate much effort to the monitoring role. [Mitra et al. \(2007\)](#) document that the existence of outsider blockholders determines the adequacy of a firm's corporate governance and affects the risk of managers reporting misleading information reported. Thus, the presence of external blockholders could be substituted for the existence of effective internal governance mechanisms and good audit quality. In this situation, the positive association between the internal governance mechanisms and audit quality could be reduced.

However, major outsider shareholders are characterised by high levels of participation, with representatives on the board of directors, enabling them to control the actions of managers and prevent the expropriation of minority interests ([Mitton, 2002](#); [Ruiz-Mallorqui and Santana-Martin, 2011](#); [Shleifer and Vishny, 1986](#)). Moreover, the blockholders have a

tendency to safeguard their reputation by protecting the interests of minority shareholders (Santos and Moreira, 2013). Mitra *et al.* (2007) argue that larger outsider shareholders are keen on presenting adequate financial information. Major shareholders, as part of their monitoring responsibilities, could encourage the managers to develop a good monitoring structure by investing more in internal and external monitoring mechanisms to provide reliable earnings information (Mitra *et al.*, 2007). Goodwin-Stewart and Kent (2006), Hay *et al.* (2008) and Hay (2013) argue that with a complementary association to improve its financial controls a firm will increase its investment in both accounting systems and external auditing. Mustapha and Ahmad (2013), using a sample of Malaysian listed firms, find that with outside blockholders, the firms are more likely to invest in the monitoring mechanisms (audit fees, IAF cost and non-executive compensation).

From the above competing arguments, the following hypothesis is stated:

H3b. The presence of major outsider shareholders could affect the association between internal governance mechanisms and audit quality.

3. Data and research design

3.1 Data and sample selection

Our sample includes all non-financial listed companies in Bursa Malaysia during the period 2009 to 2012. The initial sample comprised 958 companies in 2009, but we eliminated 269 companies that did not disclose their investment in IAF. It could be that these companies needed longer to conform to the new regulations in the first year of the requirement. We excluded these companies because one of the main items to measure governance effectiveness is the cost of IAF. Financial companies were also excluded as they operate in a different, stricter and regulatory environment, and possess different characteristics. Finally, companies with incomplete data were excluded. The period of the study covers the four years from 2009 to 2012 to include the reforms in the Malaysian auditing environment during this time. The changes include the establishment in April 2010 of the Audit Oversight Board to regulate the auditors of listed companies, and the full adoption in 2012 of the International Financial Reporting Standards (IFRS), under which Malaysian listed companies are mandated to follow the IFRS in preparing their financial statements.

Thus, 544 companies and 2,176 observations remain in the sample. The data were collected from two main sources: the annual reports of companies available on the Bursa Malaysia website and the Thomson Financial Datastream Advance available in the Sultanah Bahiyah Library, University Utara Malaysia. Table I shows the process of the sample selection.

3.2 Research design

3.2.1 Measurement of variables. This study uses audit fees as a measure for audit quality, consistent with previous studies (Abbott *et al.*, 2003; Carcello *et al.*, 2002; Hay *et al.*, 2008; O'Sullivan, 2000). The advantages of using the audit fees as a measurement for audit quality are that it reflects the amount of work of auditors (DeFond and Zhang, 2014; O'Sullivan, 2000); it is continuous and thus captures subtle variations in quality; and the literature of audit fees has developed relatively sophisticated models with R^2 often

Table I Sample selection

Total number of listed companies in 2009	958
Companies do not disclose investment in IAF (2009)	(269)
Financial companies	(37)
Incomplete data and delisted companies	(108)
Total non-financial companies	54
Duration of the study	4
Total non-financial companies in the sample for 2009 to 2012	2,176

exceeding 70 per cent, which could mitigate the concerns of correlated omitted variables (DeFond and Zhang, 2014).

Substantial shareholders are used as a proxy for OC (Su *et al.*, 2010). Ei Yet and Kooi Guan (2006) and Singam (2003) document that substantial shareholders control Malaysian companies through holding nominee companies. Thus, this study measures OC by taking the sum shareholdings of all substantial shareholders who hold at least 5 per cent of shares. Following Hay *et al.* (2006, 2008) in examining the different types of major shareholders, this study categorises the substantial shareholders into insider and outsider substantial shareholders. Insider substantial shareholders are defined as executive directors and non-executive non-independent directors (or their family members) of the company or companies in which the executive and non-executive directors (or their family members) hold at least 5 per cent of direct and indirect shares (Yunos *et al.*, 2010). An outsider substantial shareholder, either individual or an institution, is defined as a shareholder who is independent from the company's management and holds at least 5 per cent of the shares (Mitra *et al.*, 2007; Mustapha and Ahmad, 2013).

Following other authors (Al-Jaifi *et al.*, 2017; DeFond *et al.*, 2005; O'Sullivan *et al.*, 2008; Srinidhi *et al.*, 2014), this study uses an aggregate measure of a firm's governance mechanisms to measure the effectiveness of corporate governance. It is argued that using a composite of structural variables reduces any error in individual structural variables (Srinidhi *et al.*, 2014). O'Sullivan *et al.* (2008) conclude that an aggregate measurement has a stronger impact than individual measurement. Thus, the current study uses a composite measure for the firm's governance effectiveness (CGEFF). The CGEFF variable is a composite score of ten variables relating to board of directors, audit committee and IAF characteristics. Creating a comprehensive measure of the overall firm's governance is the main reason for combining several governance variables. We dichotomised the ten components by giving a value of "1" if a firm has a governance variable above the median of the firms in the same industry and year. Finally, we summed the scores for each of the ten components (BODSize, BODInd, BODMeet, BODExp, ACSize, ACInd, ACMeet, ACExp, IAFCost and IAFarr) to get the overall CGEFF score. The values range from 0 to 10, with 10 indicating greater effectiveness of corporate governance and 0 the lowest.

The following describes how we dichotomise the ten components of a firm's governance:

1. *Board size (BODSize)*: It is argued that larger board size is valuable because of the breadth of its members' knowledge and its ability to provide more services and resources (Chaganti *et al.*, 1985; Klein, 2002; Mehran and Adams, 2003). A dummy variable equals "1" if a firm has a board size more than the median of firms in the same industry and year and "0" otherwise.
2. *The independence of the board (BODInd)*: BODInd plays a significant role in enhancing effectiveness of corporate governance (Carcello *et al.*, 2002). BODInd is measured as the proportion of independent directors in the board. A firm is coded "1" if its BODInd is more than the median of firms in the same industry and year and "0" otherwise.
3. *Board meetings (BODMeet)*: It reflects the effectiveness of the board (Johl and Mat Zain, 2012). A firm is given "1" if the number of its board meetings exceeds the median of firms in the same industry and year and "0" otherwise.
4. *Financial expertise (BODExp)*: Presence of board members with financial expertise reflects its ability to fulfil its monitoring role effectively (Carcello *et al.*, 2002), having strong governance (Defond *et al.*, 2005) and providing adequate financial reports (Bedard *et al.*, 2004). This study follows the definition of a member with financial expertise by Bedard *et al.* (2004), as a director who has qualifications or experience in accounting, finance and membership of any accounting professional body. A dummy variable of "1" is used if the percentage of financial expertise is above the median of firms in the same industry and year and "0" otherwise.

5. *Audit committee size (ACSize)*: Previous studies provide supporting evidence of the positive association between ACSize and its effectiveness and thereby the demand for audit quality (Abbott *et al.*, 2003; Vafeas and Waagelein, 2007). A dummy variable of “1” is used for the firms above the ACSize median of firms in the same industry and year and “0” otherwise.
6. *Audit committee independence (ACInd)*: Klein (2002) argues that ACInd reflects the effectiveness of the audit committee. Following the justification of Defond *et al.* (2005), this study codes firm “1” if all audit committee members are independent and “0” otherwise.
7. *Audit committee meetings (ACMeet)*: A dummy variable of “1” is used if there are more meetings a year than the median for firms in the same industry and year and “0” otherwise.
8. *Financial expertise (ACExp)*: The ratio of AC expertise (ACExp) is computed as the number of members on the committee with financial expertise, divided by the total number of AC members. A dummy variable of “1” is used for firms with ACExp ratio above the median of firms in the same industry and year and “0” otherwise.
9. *IAF costs (IAFCost)*: Prawitt *et al.* (2009) and Zain *et al.* (2006) argue that a well-resourced IAF indicates that a company’s IAF is effective and covers a greater scope of audit work. Hay *et al.* (2008) used the presence of IAF and the number of internal auditors as a measure of IAF. However, limitations in their study were attributed to this being an ineffective measurement. There is little empirical research in the area of investigating the consequences of monetary investment in IAF (DeFond and Zhang, 2014). Thus, following Johl *et al.* (2013), the current study uses investment in IAF to measure IAFCost. A value “1” is given “1” for a firm with IAFCost above the median of firms in the same industry and year, and “0” otherwise.
10. *Arrangement sourcing of IAF (IAFarr)*: The IAF could be outsourced to a third party IAF provider or performed in-house. The in-house IAF could be preferred to the outsourced IAF, consistently attempting to meet management’s expectations, because daily contact with a firm enables it to discover the problems, develop loyalty, build relationships with employees, know the critical facts or issues and influence management choices (Glover *et al.*, 2008). Thus, the dummy variable IAFarr is used, which takes the value “1” if a firm has in-house IAF and “0” otherwise (Al-Rassas and Kamardin, 2016).

3.2.2 Model specification. Following previous studies (Abbott *et al.*, 2003; Carcello *et al.*, 2002; Khan *et al.*, 2015; Srinidhi *et al.*, 2014), the hypotheses of OC and corporate governance effectiveness on audit quality are tested using the ordinary least square (OLS) analysis. This study extends the extant literature by examining the effect of a comprehensive measure for a firm’s governance on audit quality across varied levels of OC. Consequently, it links the measure of corporate governance with the nature of OC and uses the following models to test the hypotheses:

$$\begin{aligned} \text{Log AF}_{it} = & \beta_0 + \beta_1 \text{OC}_{it} + \beta_2 \text{CGEFF}_{it} + \beta_3 \text{Log SIZE}_{it} + \beta_4 \text{Log COMPL}_{it} + \beta_5 \text{LEV}_{it} \\ & + \beta_6 \text{RISK}_{it} + \beta_7 \text{AUTYPE}_{it} + \beta_8 \text{IFRS}_{it} + \beta_9 \text{AOB}_{it} + \beta_{10} \text{YEARDUMS}_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Log AF}_{it} = & \beta_0 + \beta_1 \text{OC}_{it} + \beta_2 \text{CGEFF}_{it} + \beta_3 \text{OC} * \text{CGEFF}_{it} + \beta_4 \text{Log SIZE}_{it} \\ & + \beta_5 \text{Log COMPL}_{it} + \beta_6 \text{LEV} + \beta_7 \text{RISK}_{it} + \beta_8 \text{AUTYPE}_{it} + \beta_9 \text{IFRS}_{it} + \beta_{10} \text{AOB}_{it} \\ & + \beta_{11} \text{YEARDUMS}_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

The dependent variable audit fees is measured by taking the natural log of audit fees (LogAF). The main independent variables are OCCGEFF and the interaction between OC

and corporate governance effectiveness ($OC \times CGEFF$). To address the problem of heteroscedasticity and autocorrelation in the data, this model was run with robust standard errors.

3.2.3 Control variables. Consistent with previous studies (Hay *et al.*, 2008; Khan *et al.*, 2015; Srinidhi *et al.*, 2014), this study controls a number of characteristics of firms, which have been shown to influence the demand for audit quality. It uses the natural log of total assets to control the effect of company size (SIZE). The company's complexity is proxied by the natural log of subsidiaries. The leverage (LEV) is used as a control variable, measured by the ratio of total debts to total assets. The company risk (RISK) is measured by the percentage of the sum of receivables and inventories to total assets. A dummy variable is used to control the auditor type, with a company coded as "1" if it is audited by a Big 4 audit firm and "0" otherwise. Reform of the Malaysian audit environment by the establishment of AOB in 2010 and IFRS in 2012 was discussed above. A dummy variable (IFRS) is used to indicate the full adoption of IFRS, with a company coded as "1" if it prepaid its reports post-IFRS adoption and "0" otherwise. The dummy variable (AOB) takes the value "1" for the post-AOB period and "0" for the pre-AOB period. A year dummy variable (YEARDUMS) is added to control the effects of the year as our regression test pools the observations during 2009-2012. Table II presents the definitions of all variables.

4. Findings

4.1 Descriptive statistics

Table III shows the descriptive statistics for the variables used in the current study. As the distributions of AF, SIZE and COMPL are highly skewed, to reduce outliers' effects on the residuals, the logs of AF, SIZE and COMPL are used. The means (median) of AF in Ringgit Malaysia (RM) are 276,270 (122,000) with a minimum of RM 8,960 and maximum of RM 22,200,000. These figures are slightly lower when compared to other Malaysian studies' results (RM 282, 200 and 290,770) (Wahab *et al.*, 2009, 2011) and higher than those reported by Johl and Mat Zain (2012) and Zalailah *et al.* (2006), at (240,956 and 218,052). Figure 1 shows a steady increase in the average value of audit fees over the four years from 2009 to 2012, probably as a result of the new reforms in the Malaysian regulatory environment (i.e. AOB and full IFRS). The mean value of OC is 54 per cent, which is similar to the reported mean value of 53.55 per cent for OC in a Malaysian study (Yunos *et al.*, 2012). The mean values of INOC and OUOC are 36.89 and 17.20 per cent, respectively, higher than the mean values reported by Yunos *et al.* (2010) and Mustapha and Ahmad (2013): 30.85 and 15.17 per cent, respectively. However, the OUOC is lower than in developed markets, Mitra *et al.* (2007) reporting 20 per cent as the mean value for outsider blockholders. The composite measure CCEFF has a mean score of 3.95, a median of 4 and a range of 0 to 10. This compares with the average for board quality reported by Johl *et al.* (2013) as 1.89 with a range of 0 to 5.

To examine the correlation between the independent variables, a correlation analysis is conducted. Table III presents the correlation coefficients between independent variables, indicating that they are between 0.007 and 0.410. Hair *et al.* (2010) argue that correlation coefficients between independent variables above the absolute value of 0.700 indicate the presence of a multicollinearity problem, which is not the case here (Table IV).

4.2 Regression results

This section provides the results of multivariate tests, estimated using OLS regression with robust standard errors. Table V reports the results of Models 1 to 4. The selected independent variables explain the variation in audit fee with adjusted R^2 : 68.2 per cent. The adjusted R^2 of this study is higher than that in other Malaysian studies (Johl and Mat Zain, 2012; Wahab *et al.*, 2009, 2011) which report 47, 43 and 62 per cent, respectively.

Table II Variables definitions

<i>Variables</i>	<i>Descriptions</i>
AF	= Audit fees in Malaysian ringgit
Log AF	= Natural log of audit fees
OC	= Ownership concentration, the proportion shares of substantial shareholders who hold at least 5 per cent of company's shares
INOC	= The percentage of shares hold by insider substantial shareholders
OUOC	= The proportion of shareholdings holding by outsider substantial shareholders
OCDU	= A dummy variable, a value of "1" is given if the OC of a company is above the average of shareholdings for a sample and "0" otherwise
CGEFF	= The effectiveness of corporate governance, an aggregate measure of ten internal governance characteristics (BODSize, BODInd, BODMeet, BODExp, ACSize, ACInd, ACMeet, ACExp, IAFCost and IAFarr), ranges from 0 to 10; with 10 indicating greater effectiveness of corporate governance and 0 the lowest
BODSize	= Board size, a value of "1" is signed if the BODSize of a company is above the median of companies in same industry and year and "0" otherwise
BODInd	= Board independence, a value of "1" is given if the BODInd ratio of a company is greater than the median of companies in same industry and year and "0" otherwise
BODMeet	= Board meetings, a value of "1" is given if the BODMeet of a company is above the median of companies in same industry and year and "0" otherwise
BODExp	= Board expertise, a value of "1" is signed if the BODExp ratio of a company is greater than the median of sample in same industry and year and "0" otherwise
ACSize	= Audit committee size, a value of "1" is signed if the ACSize of a company is above the median of companies in same industry and year and "0" otherwise
ACInd	= Audit committee independence, a value of "1" is given if the all audit committee members are independent and "0" otherwise
ACMeet	= Audit committee meetings, a value of "1" is given if the ACMeet of a company is above the median of companies in same industry and year and "0" otherwise
ACExp	= Audit committee, a value of "1" is signed if the ACExp ratio of a company is greater than the median of companies in same industry and year and "0" otherwise
IAFCost	= Internal audit function costs, a dummy variable of "1" is used for companies that have IAFCost above the median of the companies in same industry and year and "0" otherwise
IAFarr	= Internal audit function sourcing arrangements: A dummy variable of IAFarr is used, which takes the value of "1" if a firm has in-house IAF and "0" otherwise
OC × CGEFF	= Interaction between ownership concentration and effectiveness of corporate governance
INOC × CGEFF	= Interaction between the shareholdings of insider substantial owners and effectiveness of corporate governance
OUOC × CGEFF	= Interaction between the shareholdings of outsider substantial shareholders and effectiveness of corporate governance
SIZE	= Company size, total assets
Log SIZE	= Natural log of total assets
COMPL	= Company complexity, the number of company's subsidiaries
Log COMPL	= Natural log of number of company's subsidiaries
LEV	= The leverage, the proportion of total debts to total assets
RISK	= Company risk, the ratio of the sum of accounts receivable and inventories to total assets
AUTYPE	= Auditor type. Dummy variable is used; a value of "1" is given if a company is audited by one of Big 4 audit firms (Ernst & Young, Deloitte & Touche, KPMG and PriceWaterhouseCoopers and "0" otherwise
IFRS	= International Financial Reporting Standards adoption. Dummy variable is used; a company is coded as "1" if it prepaid its reports after IFRS adoption and "0" otherwise
AOB	= Audit Oversight Board establishment. Dummy variable is used; a value of "1" is given if a company issued its financial statement after AOB establishment and "0" otherwise
YEARDUMS	= Dummies variables are used to control different years

The results for the main model, as shown in the first two columns of [Table V](#), indicate that the level of OC is negatively related with the audit fees (coefficient = 0.001, $t = 2.600$, $p < 0.01$). This suggests that a firm with more concentrated ownership is less likely to demand extensive audit service and, hence, to pay lower audit fees. This finding is consistent with the argument that with more concentrated ownership, the conflict between managers and owners will be aligned, reducing the demand for an

Figure 1 Mean value of audit fees

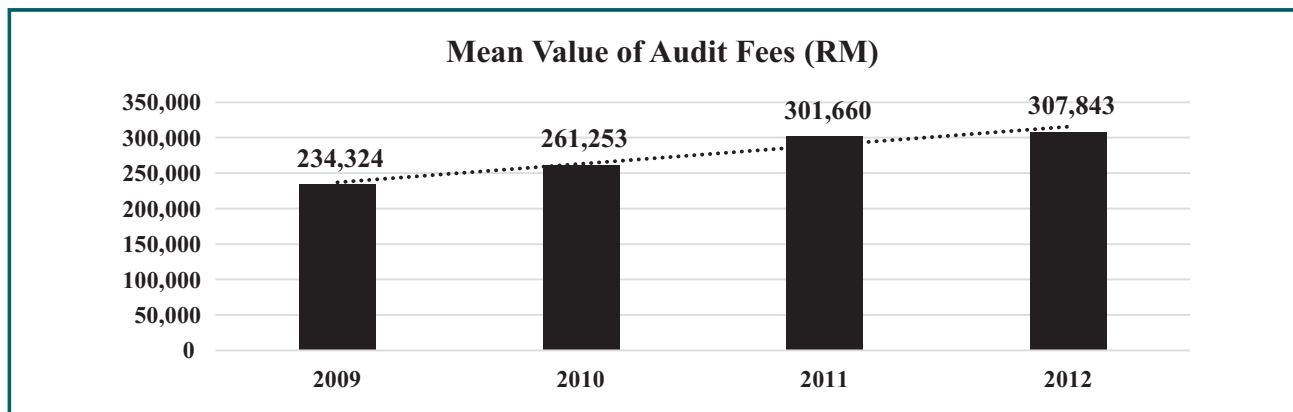


Table III Descriptive statistics

Variable	Mean	Median	SD	Min	Max
AF (RM 000)	276.27	122.00	917.34	8.69	22,200.00
Log AF	2.15	2.09	0.41	0.94	4.35
OC (%)	54.09	56.16	16.76	5.00	99.77
INOC (%)	36.89	39.14	22.30	0.00	88.72
OUOC (%)	17.20	7.96	22.78	0.00	95.54
CGEFF	3.95	4.00	1.94	0.00	10.00
SIZE (RM 000)	1,583,080.00	280,000.00	5,938,734.00	2,600.00	88,500,000.00
Log SIZE	5.51	5.45	0.68	3.41	7.95
COMPL	16.05	1.78	31.12	0.00	400.00
Log COMPL	0.79	0.90	0.99	-4.00	2.60
RISK	0.32	0.30	0.20	0.00	0.98
LEV	0.19	0.15	0.17	0.00	1.39
AUTYPE	0.53	1.00	0.50	0.00	1.00
IFRS	0.25	0.00	0.43	0.00	1.00
AOB	0.71	1.00	0.46	0.00	1.00

Note: All variables are defined in Table II

Table IV Correlation analysis for independent variables

Variable	OC	CGEFF	LogCOMPL	LogSIZE	RISK	LEV	AUTYPE	IFRSS	AOB
OC	1.000								
CGEFF	0.068***	1.000							
LogCOMPL	-0.022	0.163***	1.000						
LogSIZE	0.244***	0.410***	0.245***	1.000					
RISK	-0.056***	-0.129***	-0.025	-0.277***	1.000				
LEV	-0.095***	0.076***	0.129***	0.248***	0.007	1.000			
AUTYPE	0.191***	0.165***	0.025	0.384***	-0.132***	-0.053***	1.000		
IFRS	-0.025	0.009	-0.094***	0.022	-0.002	-0.023	-0.037*	1.000	
AOB	-0.012	0.009	-0.031	0.045**	-0.001	-0.020	0.007	0.372***	1.000

Notes: *, **, and *** denote significance at the $p < 0.10$; $p < 0.05$ and $p < 0.01$ levels, respectively; all variables are defined in Table II

extensive audit service. It is also consistent with the results of studies conducted in other emerging markets (Khan *et al.*, 2011; Lin and Liu, 2009). In terms of the variable CGEFF (coefficient = 0.019, $t = 7.230$, $p < 0.01$), this study provides evidence to support the findings of the extensive audit literature, that firms with effective corporate

Table V Regression results

Variable	Pred. sign	Model 1		Model 3		Model 2		Model 4	
		Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
OC	?	-0.001***	-2.600	-	-	0.000	0.170	-	-
INOC	-	-	-	-0.001***	-3.100	-	-	0.001	0.830
OUOC	?	-	-	-0.001*	-1.670	-	-	0.000	0.120
CGEFF	+	0.019***	7.230	0.018***	6.890	0.031***	3.230	0.036***	3.640
OC × CGEFF	?	-	-	-	-	0.000	-1.400	-	-
INOC × CGEFF	?	-	-	-	-	-	-	0.001***	-2.290
OUOC × CGEFF	?	-	-	-	-	-	-	0.000	-1.060
Log COMPL	+	0.058***	8.680	0.059***	8.640	0.058***	8.680	0.058***	8.600
Log SIZE	+	0.456***	38.360	0.453***	37.650	0.456***	38.450	0.453***	37.670
RISK	+	0.216***	8.460	0.218***	8.530	0.217***	8.490	0.220***	8.580
LEV	+	-0.001	-0.020	0.002	0.070	-0.002	-0.070	0.002	0.060
AUTYPE	+	0.017*	1.510	0.016*	1.450	0.017*	1.460	0.015*	1.350
IFRS	+	0.065***	2.440	0.065***	2.440	0.065***	2.440	0.066***	2.450
AOB	+	0.046**	2.020	0.046**	2.010	0.045**	2.010	0.045**	1.990
YEARDUMS					Included				
_cons	?	-0.576***	-9.520	-0.557***	-9.100	-0.629***	-8.970	-0.626	-8.780
R^2			0.684		0.684		0.684		0.685
Adj R^2			0.682		0.683		0.683		0.683
F-value			271.820		252.400		248.020		220.740
Observations			2176.000		2176.000		2176.000		2176.000

Notes: *, ** and *** denote significance at the $p < 0.10$; $p < 0.05$ and $p < 0.01$ levels, respectively; all variables are defined in Table II

governance mechanisms are more likely to demand extensive audit service, which ultimately increases audit fees (Beasley and Petroni, 2001; Hay *et al.*, 2008; O'Sullivan, 2000; Wahab *et al.*, 2011; Zalailah *et al.*, 2006).

Following the call for research examining different forms of controlling owners with audit fees, this study re-estimates the main model by replacing OC with INOC and OUOC. The findings presented in Columns 3 and 4 of Table IV, suggest that the firms with insider and outsider controlling shareholders tend to demand less auditing and, hence, pay lower audit fees. In other words, both insider and outsider OCs are negatively related to audit fees (coefficient = -0.001 and -0.001, $t = -3.100$ and -1.67 , $p < 0.01$ and 0.10).

This study argues that the firms with concentrated ownership (the presence of controlling shareholders) have more incentive and ability to directly monitor management that reduces their need for governance mechanisms in monitoring management. OC × CGEFF is negatively related to audit fees (coefficient = -0.000, $t = -1.400$, $p < 0.20$), suggesting that firms whose ownership is concentrated in the hands of controlling shareholders are less dependent on governance to monitor management, which reduces the strong positive association between CGEFF and audit fees. In addition, we find supporting evidence for the argument that insider major shareholders can directly monitor managers, reducing their reliance on internal governance mechanisms, in turn reducing the positive association between CGEFF and audit fees. In the results presented in Columns 7 and 8 of Table IV, INOC × CGEFF is negatively associated with audit fees (coefficient = -0.001, $t = 2.290$, $p < 0.01$).

Most of the control variables, Log SIZE, Log COMPL, RISK, AUTYPE, AOB and IFRS, are positively associated with the demand for extensive audit services (audit fees) (coefficient 0.456, 0.058, 0.216, 0.017, 0.046 and 0.065; $t = 38.360$, 8.680, 8.460, 1.510, 2.020 and 2.440; and $p < 0.01$, 0.01, 0.01, 0.20, 0.05 and 0.01) respectively. However, LEV is not related to audit fees.

4.3 Further analysis

4.3.1 Alternative definition of ownership concentration. As argued above, Malaysia is characterised by a high level of concentrated ownership structures that make OC the main factor driving the demand for audit quality. Thus, a dummy variable of OC (OCDU) is used as an alternative measurement of OC. Following [Mustapha and Ahmad \(2013\)](#), companies with highly concentrated shareholdings, above the average for the whole sample are assigned “1” and “0” otherwise. OCDU is then regressed on the main model. The findings in shown in Columns 2 and 3 of [Table VI](#) show that the coefficient on OCDU is negative and statistically significant at the 1 per cent level, implying that the companies with high OC tend to demand less audit quality than companies with low concentrated ownership. This result supports the results of the main model.

4.3.2 Alternative measure of corporate governance effectiveness. An alternative corporate governance effectiveness measure based on the median of the whole sample rather than the sector or year is used to rule out the possibility that differences in the measurement of CGEFF could result in different outcomes. Following [DeFond et al. \(2005\)](#), CGEFF is measured by summing the dichotomous measures of the ten governance characteristics based on the median of the whole sample. Therefore, an aggregate measure of ten governance characteristics is constructed in which each firm is classified as having strong or weak governance. A firm is classified as stronger in governance if it has a composite measure (individual governance characteristics) equal to or more than the median of the sample, which is 4; it is considered as possessing weak governance if its composite measure is less than 4. The findings in Columns 4 and 5 of [Table IV](#) show that there is a strong positive relationship between CGEFF and audit fee at the 1 per cent significance level, indicating that firms with strong governance mechanisms are more likely to demand extensive external auditing and pay higher audit fees. This result supports the results of the main model.

4.3.3 Alternative way of examining the impact of ownership concentration on the association between firm's governance effectiveness and audit fees. Our main findings are reported using the interactions between OC and CGEFF. In this section, we categorise the companies in our sample according to whether their OC is high or low and whether the controlling shareholders hold at least 70 per cent of the shares. Shareholdings' 70 per cent is considered a sufficient cut off because shareholders with 70 per cent ownership and above are concerned with their own welfare rather than that of everyone else; the entrenchment hypothesis prevails in

Table VI Further analysis results

Variable	Model 5		Model 6		Low OC		High OC		Lagged IVs	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
OCDU	-0.031***	-3.100	-	-	-	-	-	-	-	-
OC	-	-	-0.001***	-2.690	-	-	-	-	-0.001**	-2.090
CGEFF	0.019***	7.300	0.061***	6.170	0.019***	6.870	0.022**	2.060	0.016***	5.130
Log SIZE	0.455***	39.200	0.464***	39.820	0.457***	36.580	0.363***	10.370	0.441***	40.350
Log COMPL	0.058***	8.710	0.059***	8.910	0.057***	8.370	0.090***	3.740	0.089***	12.740
RISK	0.215***	8.410	0.216***	8.410	0.212***	7.930	0.322***	3.260	0.215***	7.010
LEV	-0.002	-0.080	-0.003	-0.100	-0.015	-0.470	0.420***	3.230	-0.043	-1.280
AUTYPE	0.017	1.520	0.017	1.540	0.010	0.860	0.158***	3.070	0.007	0.590
IFRS	0.068***	2.540	0.059**	2.190	0.069***	2.510	0.114	0.930	-	-
AOB	0.044**	1.950	0.049**	2.160	0.042*	1.840	0.016	0.140	0.046**	1.830
YEARDUMS					Included					
_cons	-0.598***	-9.940	-0.583***	-9.590	-0.616***	-9.440	-0.337*	-1.780	-0.445***	-8.100
R ²	0.682		0.684		0.6748		0.730		0.699	
Adj R ²	0.681		0.683		0.6732		0.712		0.697	
F-value	267.260***		276.030***		252.47***		55.120***		376.100***	
Observations	2,176		2,176		2,016		160		1,632.000	

Notes: *, ** and *** denote significance at the $p < 0.10$; $p < 0.05$ and $p < 0.01$ levels, respectively; all variables are defined in [Table II](#)

this case. Thus, we re-estimate the main Model (1) for firms with high and low OC; the findings are tabulated in Columns 6, 7, 8 and 9 of [Table VI](#). The findings presented in Columns 6 and 7 of [Table VI](#) for firms with low OC suggest that the impact of CGEFF on audit fees is stronger than the impact of CGEFF for firms with high concentrated ownership. That is, the coefficient of CGEFF on firms with low concentrated ownership is positive (i.e. coefficient 0.019, $t = 6.870$, $p < 0.01$), but the coefficient of CGEFF on firms with high OC is lower (coefficient 0.022, $t = 2.060$, $p < 0.05$). The findings, therefore, underline the essential impact of OC in reducing the positive association between CGEFF and the demand for audit quality.

4.3.4 Endogeneity of internal governance mechanisms. Endogeneity is a frequent problem related to accounting research; it occurs because of simultaneous outcomes, explanatory variables and omitted variables ([Larcker and Rusticus, 2010](#)). [Hay et al. \(2008\)](#) argue that the association between the internal governance mechanisms and external auditing could be endogenous, where the strength of internal governance mechanisms could lead to less (or more) demand for extensive external auditing; conversely, higher audit quality could lead to reducing (or increasing) other forms of internal governance mechanisms. To control this potential reverse causality problem, this study re-estimated the main model using the lagged values of the independent variables ([Al-Jaifi, 2017](#); [Alves et al., 2015](#); [Larcker and Rusticus, 2010](#)). Columns 9 and 10 in [Table VI](#) present the findings of re-estimating the lagged values of the independent variables. The main results persisted, indicating that reverse causality is unlikely to be important.

5. Conclusions

This paper provides supporting evidence for the prediction of [Desender et al. \(2013\)](#) that the ownership structure of corporations must be considered in examining the effectiveness of corporate governance. Specifically, the current paper examines the role of OC on the relationship between internal corporate governance mechanisms (board of directors, audit committee and IAF characteristics) and the demand for audit quality measured by audit fees. First, we examine the direct impact of OC and corporate governance effectiveness on audit fees. It is reported that OC is negatively related to the demand for extensive audit service. Our findings are consistent with previous literature, that the firms with effective corporate governance are more likely to pay higher audit fees; this supports the complementary view between internal governance mechanisms and external auditing ([Hay et al., 2008](#); [Srinidhi et al., 2014](#); [Wahab et al., 2011](#)). Second, we test the impact of OC on the association between a firm's governance and audit fees. Empirical evidence suggests that ownership structure plays an essential role in forming a firm's governance and how it monitors managers. Specifically, firms with high OC moderate the positive relationship between governance and the demand for extensive audit service. The results also show that the presence of insider controlling shareholders will replace the complementary association between the firm's governance and the demand for audit quality in a substitution association. The findings of further analysis support the main results. Generally, the findings of this study provide good insights into the role of OC in forming an association between internal governance mechanisms and audit quality in Malaysian firms.

This study extends the audit literature by examining the impact of internal governance mechanisms on the demand for audit quality in the context of the agency problem Type II agency conflicts could occur between majority and minority shareholders because of the shares being held by a few shareholders. Our findings imply that with a high ownership concentration, the impact of internal governance mechanisms on audit quality is weakened. In addition, the findings of this study have many significant implications for the audit

profession in emerging economies, where the controlling shareholders (e.g. families, individuals, institutions and government) are considered the backbone of the economy. Our findings demonstrate the reluctant role of OC on the demand for audit quality and its relationship with the effectiveness of governance, which could be of interest to policymakers and regulatory bodies in determining the power of controlling shareholders on audit quality and governance. Further, these findings open up avenues for further researchers. Like other research, this study has limitations that suggest caution in interpreting the findings. We excluded financial companies from our sample, which could affect the generalisation of our results. Moreover, we have not considered the other classifications of controlling shareholders (e.g. government, institutional, foreign and individual), which could affect audit quality. Thus, these limitations warrant future research to investigate their influence on audit quality and to test the overall generalizability of our findings.

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Corresponding author

Adel AlQadasi can be contacted at: aalgadasey@yahoo.com and alqadasi@su.edu.sa

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