DOES AUDIT COMMITTEE QUALITY ENHANCE FIRM PERFORMANCE WITHIN A NEW CORPORATE LAW?

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Abstract

The present study considers the policies and amendments as per the enactment of the Companies Act, 2013 in India regarding the audit committee measures, whether the companies abide by the amendments, and what impact it has on the firm performance. As per the earlier studies (Drogalas et al., 2016), the audit committee quality has a positive impact on the firm performance. The methodology adopted includes ordinary least square (OLS) regression techniques with the fixed effect model (FEM) and random effect model (REM). The results states that the audit committee measures follow the norms as per the Companies Act, 2013 thus maintaining the audit committee quality but the audit committee quality does not enhance the firm performance as this is due to the reason that the audit committee measures incorporation, functioning and implementation at the ground level is not up to the mark till present. Moreover, the presence of Big 4 auditors as clients improves the accounting measures of firm performance and does not hold good for market measure of firm performance thus stating that the Big 4 auditors are performing their duties very well with respect to the audit function but lacks in improvising shareholders and managers regarding the financial statements of the companies.

Keywords: Audit Committee, Firm Performance, Nifty 500, Audit Fees, Auditor Fees, Tobin's Q, ROA, ROE

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1. INTRODUCTION

Audit committees with good governance quality encourage corporate hedging. Good governance quality includes board independence, and the board's financial knowledge and university education could be considered in future regulations of the New York Stock Exchange (NYSE) and the Sarbanes-Oxley Act (SOX) because it is beneficial for the firms (Drogalas et al., 2016) Implementation of an appropriate corporate governance structure reduces agency costs which are the result of the principal-agent problem. The 12 factors that are considered as determinants of the audit quality are firm size, composition of the audit team, compliance with accounting standards, involvement of the audit committee, auditor's personal responsibility, involvement of the company's executive, and compliance with organizational needs (Carcello et al., 1992; Drogalas et al., 2016).

As per monitoring effect theory, independent directors, in comparison to the executive directors, are viewed as superior monitors because their careers are not tied to the firm's chief executive officer (CEO) and they could make decisions that are against him without being afraid of their positions and future compensation. Independent board, moreover, improves the firm performance and does not manage its earnings by reporting abnormal accruals. The empirical evidence as per earlier studies suggests that financially knowledgeable audit committees are beneficial to the firm (Agrawal & Chadha, 2005; DeFond et al., 2005; Davidson et al., 2005). Hence, our study aims to examine whether the audit committee quality is maintained and what impact it has on the firm performance. For this purpose, the present study acknowledges the audit committee quality represented by the audit committee measures and further examines its impact on the firm performance (Campbell et al., 2015; DeAngelo, 1981; Palmrose, 1986). Based on the above literature review and suggested measures following research questions were examined:

RQ1: Do companies in India follow the audit committee requirements as per the Companies Act, 2013?

RQ2: What impact does the audit committee and its characteristics have on the firm performance?

Our study contributes to the existing literature in many ways. Firstly, as per our understanding, this is the first study examining the audit committee quality as per the Companies Act, 2013 norms. Secondly, a detailed empirical analysis of the audit committee measures has been done using ordinary least square (OLS) regression, Hausmann specification tests for fixed effect model (FEM) and random effect model (REM). Moreover, the study suggests that these companies oblige the norms and maintain the standards following the policies, recommendations, and amendments made during the period of the study. Our findings suggest that the audit committee measures have a significant negative impact on the firm performance, or did not have any significant impact at all. However, audit committee size has a mixed impact on the firm performance, and the presence of Big 4 auditors has a significant positive impact on the firm performance, which highlights the importance of the Big 4 auditors as auditor clients. It also seems that full-fledged policy implementations take time at the ground level and hence could be further examined with more versatile data, including the auditor's financial expertise and minutes of meetings of auditors with the director's availability.

The rest of the paper is structured as follows. Section 2 describes the literature review. Section 3 presents the data and research methodology. Section 4 provides the empirical analysis. Section 5 discusses the main findings. Section 6 concludes the paper.

2. LITERATURE REVIEW

As per earlier studies (117 empirical studies) during the period 2007–2015, it is suggested that the audit committee performs a central monitoring function with relation to financial reporting quality, internal audit quality, and external audit quality, which in turn should translate itself into better firm performance (Velte, 2017). This is in view with Section 302, Section 404, Section 301, and Section 404(b) of the SOX, which were timely updated and stated that the audit committee's responsibility is not only limited to financial reporting but also extends to the internal control system with the external auditor assessing the effectiveness of the internal audit.

Moreover, with the conclusive statements of the European Regulation (EU) No. 537/2014, there should be an appointment of at least one financial expert (with special experience) on the accounting or audit committee. Considering these regulations and other studies, it has been viewed that audit committee characteristics are heterogeneous from an international perspective, and no consensus could be drawn (Velte, 2017; Campbell et al., 2015). However, apart from the principal-agent theory, the stewardship theory of corporate governance better directs the audit committee members to act as "good stewards" and engage in a healthy relationship with the management, internal as well as external auditor (Stiglbauer & Velte, 2012). This implies that the audit committee performs the functions of the consultants rather than the monitoring function, and hence, the financial expertise of the audit committee becomes recommendable. Moreover, positive correlations have been observed between audit committee financial expertise and audit committee chairperson as well as audit committee independence (Zaman & Sarens, 2013; Velte, 2017). Similarly, positive correlations have also been observed between audit committee financial expertise and audit committee meeting frequency as well as auditor independence (Boubaker & Taher, 2013; Velte, 2017) while audit committee financial expertise had a negative impact on the audit committee size (Boubaker & Taher, 2013; Velte, 2017). However, the management treats an independent auditor as an assistant for advisory services and hence contrasting correlations are also found for auditor independence (Hermanson & Rittenberg, 2003; Chien et. al., 2010).

Earlier studies also argued that large size of audit firms especially Big 4 firms is the best indicator of audit quality as large audit firms provide higher quality than smaller audit firms as large firms have more experienced auditors with more expenditure in information technology (DeAngelo, 1981; Palmrose, 1986; Chen et al., 2005; Wan Abdullah et al., 2008; Mat Yasin & Nelson, 2012). Moreover, audit fees are also used as a proxy for audit quality since audit quality is unobservable (O'Sullivan, 2000; Carcello et al., 2002; Salleh & Yusof, 2006; Yatim et al., 2006; Goodwin-Stewart & Kent, 2006; Mitra et al., 2007; Bliss et al., 2011; Mat Yasin & Nelson, 2012). It is also expected that higher audit fees indicate a higher quality audit to ensure that the financial statements are free from material misstatements.

Since the study of Simunic (1980) a number of studies have focused on the relationship between client size and corporate audit fees and found that there is a positive relationship between client size and audit fees (Francis & Simon, 1987; O'Keefe et al., 1994; Ho & Ng, 1996; Goodwin-Stewart & Kent, 2006). The independence of directors emphasizes the appointment of higher-quality auditors and thus gives assurance to shareholders that the financial statements of the companies are fairly presented, and thus this is associated with higher external audit fees, reporting higher audit quality. Companies with internal audit departments are more competent in their management controls and accounting personnel, and this suggests that firms engaging in

greater internal monitoring also engage in greater monitoring in strengthening their corporate governance. However, companies with more internal audit competencies result in lower audit fees, and some studies found a negative relationship between the external auditor's reliance on the internal audit assistance and the audit fees (Felix et al., 2001; Eltweri, 2021). Audit committee characteristics play an important role in enhancing earnings management and serve as watchdogs (Choi et al., 2014). Chaebol-affiliated firms whose largest shareholders hold less than 10% or more than 30% of total equity ownership experience higher abnormal returns around audit committee announcements, thus aligning interests with the minority shareholders.

The financial literacy of audit committee members has a positive impact on the shareholders' wealth and the surrounding environment. The effectiveness of corporate governance in emerging markets has increased after the financial crisis, a change largely brought about by massive regulatory reforms. Consistent with DeFond et al. (2005) arguing that firms with better governance have more positive stock price reactions to the appointment of financially literate members, the study also added to the existing literature that stock returns are about 6% higher on the appointment of financially literate members when the company has an independent audit committee in Korea. Audit committee is expected to contribute even more to the improvement of corporate governance by facilitating and ensuring the transparency of financial reporting (Alqatamin & Alqatamin, 2024; Flayyih et al., 2024). The empirical evidence as per earlier studies suggests that financially knowledgeable audit committees are beneficial to the firm (Agrawal & Chadha, 2005; DeFond et al., 2005; Davidson et al., 2005; Dlamini et al., 2017; Jameel et al., 2024).

In India, Securities and Exchange Board of India's (SEBI) Listing Obligations and Disclosure Requirements (LODR) Regulations of 2015 under Section 18 and also under Section 177 of the Companies Act, 2013, Ministry of Corporate Affairs (MCA) mandates every listed entity to constitute an independent and qualified audit committee with certain provisions for the companies and these are: audit committee shall comprise minimum three directors as members, at least 2/3rd of the members of the audit committee shall be the independent directors, all members of the audit committee shall be financially literate with at least one member shall be having accounting/financial expertise, chairperson of the audit committee shall be an independent director and audit committee members should have a minimum of four meetings annually. These provisions have been mandated for every listed entity and have been examined in the present study. To address these questions, the following hypotheses were examined:

H1: Indian companies do not follow the audit committee requirements as per the Companies Act, 2013.

H2: Audit committee characteristics do not significantly impact the firm performance.

3. DATA AND RESEARCH METHODOLOGY

The sample used to carry out the research is the Nifty 500 Index taken from the National Stock Exchange (NSE), India. The reason for choosing the sample is the maximum free-float market capitalization of 96.1% as of 29th March 2019. The sample chosen is because it covers the maximum of the industrial sector based on size (market capitalization). Out of the Nifty 500 sample, 152 companies have been left out due to the nature of the ownership of companies, as they belong to the Central and State governments, as well as to the banking and financial services sector. As per earlier studies, the nature of governance mechanisms of the Central and State government enterprises and the financial sector is different from that of private companies (Haldar & Rao, 2011).

Moreover, these enterprises are subjected to different social and legal regulations. Hence, after 152 companies have been left out, the remaining 348 private sector companies are distributed amongst the different industrial sectors. Out of the 348 private sector companies, two major classifications have been made based on the manufacturing and services industrial sectors. Out of the 348 companies, 254 belong to the manufacturing sector and the rest 94 belong to the services sector. A panel dataset was constructed for the 348 companies ranging from 2012 to 2020, including all committee measures and firm performance measures (both accounting and market measures of firm performance) annually. The data has been winsorized at 1% and 99%, respectively. The analysis of the panel data has been done through EViews 10. Table A.1 (see Appendix) represents the variable description of the data as obtained from the Prowess IQ database, provided by the Centre for Monitoring Indian Economy (CMIE).

The independent variables taken for the study represent the different committee measures. The audit committee characteristics include audit committee size (*ACS*) (Velte, 2017) and number of audit committee meetings (*NACM*) (Velte, 2017). The audit committee measures evaluated are taken as per earlier studies (Naim et al., 2024). The dependent variables taken under the study include Tobin's Q (*TOBINSQ*), return on assets (*ROA*), and return on equity (*ROE*) are also as per earlier studies (Naim et al., 2024; Aldegis et al., 2023; Buchanan et al., 2012). The controlling variables have also been taken as per an earlier study conducted by Naim et al. (2024). The audit committee measures impact on the firm performance have been examined by the OLS regression techniques including the FEM and REM after the application of Hausman specification test. More robust techniques, including the Generalized Methods of Moments (GMM), could be applied further while examining the impact of audit committee characteristics on the firm performance.

Table A.2 (see Appendix) represents the descriptive statistics of the variables under the study. The presence of the audit committee is greater than 0.5 on average, with a median of 1.000 overall, which still shows that there are some companies which does not comply with the Companies Act, 2013 norms of maintaining the respective audit committees. Considering the board of directors meeting frequency, the mean is 5.839 with a median of 5.000, which very well confirms the minimum four number of four meetings annually of the board of directors as per the Companies Act, 2013. Similarly, in the case of audit committee meetings, the mean is 5.028 with a median of 4.000, which also supports the number of audit committee meetings of a minimum of four annually as per the Companies Act, 2013. Log of organizational age, market capitalization, audit fees, auditor fees and non-audit

fees have been taken to make the data more symmetric. As these are large values, the data is brought into order on both sides of the equation by following a linear-log form. The rest of the variables are obtained from the Prowess IQ database and interpreted accordingly.

Table A.3 (see Appendix) represents the Pearson correlation matrix, which is also taken as per an earlier study by Naim et al. (2024), given that the audit committee measures incorporated are the same as in the earlier study. Here also the correlation between the audit fees and the auditor fees is high and is around 0.992. Therefore, the audit fees are further subdivided into the auditor fees and non-auditor fees, while the rest of the significant correlation values are within the permissible limits of 0.001–0.775 as defined per earlier studies (Kumar & Singh, 2013). The rest of the committee measures included the dummy variables, and hence, the correlation is not there.

4. EMPIRICAL RESULTS

The impact of audit committee characteristics has been examined on the dependent variable, firm performance. Both measures of firm performance have been taken, i.e., the accounting measure of firm performance (ROA and ROE) and the market measure of firm performance (Tobin's Q). Here, the empirical analysis of each is discussed as follows.

4.1. Audit committee impact on the firm performance (Tobin's Q)

Equations of the following form were estimated through the regression process:

$$TOBINSQ_{it} = \alpha + \beta_1 * LOGAUDITFEES_{it} + \beta_2 * ACS_{it} + \beta_3 * NACM_{it} + \beta_4 * PGD_{it} + \beta_5 * PINED_{it} + \beta_6 * PNIED_{it} + \beta_7 * ATS_{it} + \beta_8 * LOGOA_{it} + \beta_9 * LOGMC_{it} + \beta_{10} * RDTS_{it} + \beta_{11} * ACI_{it} + \beta_{12} * BIG4_{it} + \beta_{13} * CEOD_{it} + \beta_{14} * IC_{it} + \varepsilon_{it} \quad (1)$$

Note: BIG4, CEOD, ACI, and IC are dummy variables that take on the values 0 and 1 and are included in the econometric model to account for the impact of qualitative characteristics and events from these variables on the variable being explained.

where α is the intercept and β is the coefficient of the independent variable; i and t correspond to the ith cross section at time period t, and ε represents the error term. Table A.4 (see Appendix) shows the impact of audit committee measures on the firm performance (as measured by Tobin's Q). As there were high correlations between audit fees, auditor fees, and non-audit fees, we split the audit fees into auditor fees and non-audit fees and examined them separately.

Models 1–4 consider the audit fees, Models 5–8 represent the auditor fees, and similarly, Models 9–12 represent the non-audit fees. In Models 1–4, Model 1 and Model 2 represent the services firms (IC = 1), and Models 3–4 represent the manufacturing firms (IC = 0). In case of the services firms (Model 1), audit committee size has a significant positive impact on the firm performance, whereas audit fees did not have any significant impact on the firm performance. Moving on to a more robust regression technique, REM, after the Hausman specification test, which came out to be insignificant (p-value = 0.697), similar results were obtained as in the earlier OLS regression technique. In Model 2, audit committee size also had a positive and significant impact on the firm performance (as measured by Tobin's Q), while audit fees and audit committee meeting frequency did not have any significant impact on the firm performance.

Considering the case of the manufacturing sector (Models 3–4), Model 3 states that audit fees and audit committee meeting frequency did not have any significant impact on the firm performance (as measured by Tobin's Q), while audit committee size has a positive significant impact on the firm performance. Further applying the REM as per the Hausman specification test came out to be insignificant (p-value = 0.697); the results did not change for the manufacturing firms. As per previous results, in Model 4, audit fees and audit committee meeting frequency did not have any significant impact on the firm performance, while audit committee size had a positive significant impact on the firm performance (as measured by Tobin's Q).

$$TOBINSQ_{it} = \alpha + \beta_1 * LOGAUDITORFEES_{it} + \beta_2 * ACS_{it} + \beta_3 * NACM_{it} + \beta_4 * PGD_{it} + \beta_5 * PINED_{it} + \beta_6 * PNIED_{it} + \beta_7 * ATS_{it} + \beta_8 * LOGOA_{it} + \beta_9 * LOGMC_{it} + \beta_{10} * RDTS_{it} + \beta_{11} * ACI_{it} + \beta_{12} * BIG4_{it} + \beta_{13} * CEOD_{it} + \beta_{14} * IC_{it} + \varepsilon_{it} \quad (2)$$

Note: BIG4, CEOD, ACI, and IC are dummy variables that take on the values 0 and 1 and are included in the econometric model to account for the impact of qualitative characteristics and events from these variables on the variable being explained.

Moving on further in examining the impact of auditor fees on the firm performance (as measured by Tobin's Q), we adopted the same regression techniques as earlier done. Applying the OLS regression in Model 5 (for services companies IC = 1), we observe that auditor fees and audit committee meeting frequency did not have any significant impact on the firm performance, while audit committee size has a positive significant impact on the firm performance. Applying more robust techniques of the Hausman test specifies the application of the REM, as the probability value came out to be insignificant (p-value = 0.691) in Model 6. With the application of REM, the results did not change much as auditor fees and audit committee meeting frequency did not have any significant impact on the firm performance, while audit committee size had a positive significant impact on the firm performance.

In the case of manufacturing companies (IC = 0) in Models 7–8 same regression techniques were applied. Model 7 examines the impact of auditor fees on the firm performance (as measured by Tobin's Q) and states that auditor fees and audit committee meeting frequency did not have any significant impact on the firm performance, while audit committee size has a positive significant impact on the firm performance. Moving on further to the more robust technique as per the Hausman specification test insignificance (p-value = 0.693),

we applied the REM in Model 8. After the model, results did not vary much as auditor fees and audit committee meeting frequency did not have any significant impact on the firm performance, while audit committee size had a positive significant impact on the firm performance.

$$TOBINSQ_{it} = \alpha + \beta_1 * LOGNONAUDITFEES_{it} + \beta_2 * ACS_{it} + \beta_3 * NACM_{it} + \beta_4 * PGD_{it} + \beta_5 * PINED_{it} + \beta_6 * PNIED_{it} + \beta_7 * ATS_{it} + \beta_8 * LOGOA_{it} + \beta_9 * LOGMC_{it} + \beta_{10} * RDTS_{it} + \beta_{11} * ACI_{it} + \beta_{12} * BIG4_{it} + \beta_{13} * CEOD_{it} + \beta_{14} * IC_{it} + \varepsilon_{it} \quad (3)$$

Note: BIG4, CEOD, ACI, and IC are dummy variables that take on the values 0 and 1 and are included in the econometric model to account for the impact of qualitative characteristics and events from these variables on the variable being explained.

Further we examined the impact on non-audit fees on the firm performance as measured by Tobin's Q. For this purpose, we applied the same OLS regression technique for manufacturing and services firms (Models 9–10 and Models 11–12) followed by Hausman test specification specifying the application of FEM or REM. In Model 9, the results changed slightly for the services industrial sector. The non-audit fees and audit committee meeting frequency did not have any significant impact on the firm performance, while the audit committee size had a significant positive impact on the firm performance. Moving on to a more robust technique of REM after the application of the Hausman specification test (p-value = 0.675). Model 10 states the same results as those obtained in Model 9, with a slight difference that industrial classification (services firms) did not have any significant impact on the firm performance. However, as earlier observed, non-audit fees and audit committee meeting frequency also did not have any impact on the firm performance, while audit committee size has a significant positive impact on the firm performance (Tobin's Q).

Overall it has been observed that audit fees, auditor fees and non-audit fees has a negative significant impact on the firm performance (Tobin's Q) while grey directors, independent directors and executive directors have a negative significant impact on the firm performance which may be due to two reasons: either the auditors are not performing their duties well while doing the audit and guiding the shareholders and managers or the auditors are doing their duties very well and the firms have to cope with the new Companies Act, 2013 policies and amendments in the form of Kotak Committee Report 2017 (SEBI, 2017) and Company Law Committee (2022).

4.2. Audit committee impact on the firm performance (ROA)

The same set of equations was analyzed for ROA as was examined for Tobin's Q. In Table A.5 (see Appendix), Models 1–4 represent the audit fees impact on the firm performance (as measured by ROA). Similarly, Models 5–8 depict the auditor fees impact on the firm performance and Models 9–12 depicts the non-audit fees impact on the firm performance while including controlling variables and dummy variables creating settings for audit committee independence (1 = Yes, 0 = No), presence of Big 4 auditors (1 = Yes, 0 = No), CEO duality (1 = Yes, 0 = No) and industrial classification (0 = manufacturing and 1 = services). The adjusted R-squared (%) also represents a better model fit in Table A.5 than in Table A.4 when measuring firm performance by market measure of firm performance (Tobin's Q).

In Models 1–2 examining the regression equations for services firms, audit fees have a negative significant impact on the firm performance while audit committee size has also a negative significant impact on the firm performance which is opposite to the impact of the audit committee size on the firm performance (as measured by Tobin's Q). Moreover, audit committee meeting frequency has a significant positive impact on the firm performance. Moving on with the more robust technique of FEM after the Hausman specification test (p-value = 0.000***), the results did not change much for the services firms except for audit committee size and meeting frequency which became insignificant. Further in Models 3–4, the results did not change much except for the presence of Big 4 auditors, which has a significant positive impact on the firm performance, and industrial classification, which has a significant negative impact on the firm performance (as measured by ROA). The R-squared (%) model fit has also risen to 81.03%, representing a better model fit in the regression process. Similar results were obtained for the auditor fees under Models 5–8, estimating the performance of services and manufacturing companies. However, under Models 9–12, similar results were observed as obtained earlier, with slight differences, including audit committee size, and audit committee meetings did not have any significant impact on the firm performance (ROA).

4.3. Audit committee impact on the firm performance (ROE)

The same set of equations was analyzed for ROE as was done before for ROA and Tobin's Q. In Table A.6 (see Appendix), Models 1–4 examine the impact of the audit fees on the firm performance (as measured by ROE) in the presence of dummies and controlling variables, Models 5–8 examine the impact of the auditor fees on the firm performance and Models 9–12 represent the impact of non-audit fees on the firm performance. Models 1–2 consider the services sector companies, while Models 3–4 consider the manufacturing sector companies. Model 1 states that audit fees have a significant negative impact on the firm performance, and includes that audit committee size also has a significant negative impact on the firm performance. However, the audit committee frequency has a significant positive impact on the firm performance, while grey directors, independent directors, and executive directors did not have any significant impact on the firm performance.

With the application of a more robust technique, REM after the Hausman specification test (p-value = 0.524, insignificant) in Model 2, the results did not change much further. It seems that the presence of Big 4 auditor clients helps in the better audit of the companies and also proves to be beneficial for the firms when considering the advice and shortcomings reported by them, as per their financial expertise. Models 3–4 state that

the results are the same for the manufacturing sector companies in comparison to the services sector companies. Models 5–6 estimate the impact of auditor fees on the firm performance in the case of services sector companies, while Models 7–8 estimate the impact of auditor fees on the firm performance in the case of manufacturing sector companies. Model 5 states that auditor fees did not have any significant impact on the firm performance, while audit committee size has a significant negative impact on the firm performance (as measured by ROE), which was earlier observed.

Moving on with the application of more robust technique of REM in Model 6 after the application of Hausman specification test (p-value = 0.460, insignificant) the results changed slightly as the auditor fees and audit committee size did not have any significant impact on the firm performance while grey, independent and executive directors did not have any significant impact on the firm performance. Moving on to the case of manufacturing firms in Model 7, auditor fees and audit committee size have a significant negative impact on the firm performance, while audit committee meeting frequency has a positive significant impact on the firm performance with a positive coefficient of 7.691 and a positive intercept of 95.873 for the whole Model 7. However, market capitalization has a significant positive impact on the firm performance. The presence of Big 4 auditors has a significant positive impact on the firm performance, while the rest of the dummies did not have any significant impact on the firm performance. Further, with the application of the robust technique of REM after the application of the Hausman test (p-value = 0.438, insignificant), none of the variables has a positive significant impact on the firm performance (as measured by ROE).

5. DISCUSSION

In the present study, we have examined the impact of audit committee measures on the firm performance (as measured by market measure of firm performance, Tobin's Q, and accounting measure of firm performance, ROA and ROE). Audit committee measures include audit committee size, audit fees, which were further split into auditor fees and non-audit fees because of a high degree of correlation between them, audit committee independence, presence of Big 4 auditors, grey directors, independent directors, and executive directors. For the analysis purpose, the data was first organized into a panel data format from the period 2012–2020. Moving on further, the data was first examined by a Pearson correlation matrix, and afterwards, OLS regression was applied in this context. With the application of OLS, more robust techniques, including FEM and REM were applied as per the Hausman specification test criteria thus resulting into many models for audit fees, auditor fees and non-audit fees respectively.

As per our first hypothesis (*H1*) it is observed in the descriptive statistics that the manufacturing and services companies in the Nifty 500 Index follows the norms of the Companies Act, 2013 such as the independence of directors in the audit committee, audit committee size, audit committee meeting frequency, presence of Big 4 auditors, and CEO duality while data regarding some of the measures such as audit committee financial expertise, minutes of meetings with the shareholders and the audit committee announcements representing the quality of advices given audit committee representatives was not available and hence could not be further examined.

6. CONCLUSION

Earlier studies suggested that the presence of an audit committee and its measures enhances the firm performance with more returns as per the audit committee announcements. As per the second hypothesis (*H2*) of the study, it is observed that the audit fees, auditor fees and non-audit fees did not have any significant impact on the firm performance (as measured by Tobin's Q) as per market measure of firm performance while these have a negative significant impact on the firm performance (as measured by accounting measure of firm performance ROA and ROE). These results may be since after the enactment and amendments in the Companies Act, 2013, the auditors are not up to the mark for their primary and secondary duties related to auditing the company's financial statements and improving the shareholders and managers, considering their company's financial statements respectively. Hence, a large sum of amounts paid to auditors does not seem to pay off its value in the present, but may be beneficial in the future. Audit committee size has a mixed impact on the firm performance as it has a positive significant impact on the firm performance (as measured by Tobin's Q) and has a significant negative impact on the firm performance (as measured by ROA and ROE). This states that the audit committee size responds differently to different measures of firm performance.

Secondly, it is also observed that the grey directors, independent and executive directors, either have a significant negative impact on the firm performance (as measured by Tobin's Q) or do not have any significant impact on the firm performance (as measured by ROA and ROE). Moreover, audit committee independence and CEO duality also have either a significant negative impact on the firm performance or did not have any significant impact at all. This is mainly because Indian companies have been supported by large business families. Now, promoting and incorporating measures such as independence of directors, CEO duality, and financial expertise might hinder the firm performance as these measures may not serve the interest of the large business and corporate houses. These results are in contrast to the earlier studies, as the audit committee independence, CEO duality, and financial expertise seem to have a significant positive impact on the firm performance.

Moreover, the presence of Big 4 auditors as an auditor partners have a significant positive impact on the firm performance (as measured by ROA and ROE) while did not have any significant impact on the firm performance as per market measure of firm performance (Tobin's Q) which clarifies that though Big 4 auditors are improvising the companies with better audit performance but still needs to enhance the firm performance by improvising the shareholders and managers about their financial statements. Overall, it has been observed that the audit committee quality though maintained as per the Companies Act, 2013 policies and amendments does not improve the firm performance either represented by market measure of firm performance

or accounting measure of firm performance but this may does not happen in the future aspects as policies implementation takes time to function and get strengthened at the ground level.

However, as per our study although companies do oblige the norms as per the Companies Act, 2013 and later amendments but still many measures have to be incorporated such as minutes of meetings of the audit committee, breach of director's duties, financial expertise of the auditors as well as of the board of directors and many more. These measures, if further adopted, could truly enhance the quality of the audit committee, which would better result in the firm performance. As seen in our findings that audit committee measures overall have a significant negative impact on the firm performance, which also depicts that in the Indian scenario, a large span of time is required for the policies to be adopted at most of the levels. Secondly, the smooth functioning of the policies and amendments is another hindrance to effective and efficient audit committee quality. Hence, in the subsequent years, audit committee quality and its impact on the firm performance should gain much attention as these are beneficial and more productive for the firms in the long run.

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APPENDIX

Table A.1. Variable description

S.R. No.	Variable	Description
1	*ATS*	Advertising expenditure/Total sales
2	*BMF*	Board meeting frequency
3	*LOGOA*	Log of organizational age
4	*LOGMC*	Log of market capitalization
5	*NACM*	Number of audit committee meetings
6	*PAC*	Presence of the audit committee
7	*PCAC*	Presence of the chairperson in the audit committee
8	*RDTS*	Research & development expenditure/Total sales
9	*ROA*	Return on assets
10	*ROE*	Return on equity
11	*TOBINSQ*	Equity market value (market cap)/Equity book value
12	*AUDITFEES*	Log of audit fees
13	*AUDITORFEES*	Log of auditor fees
14	*NONAUDITFEES*	Log of non-audit fees
15	*CEOD*	CEO duality (CEO holding two positions as CEO and Chairman, 1 = Yes, 0 = No)
16	*IC*	Industrial classification (0 = manufacturing, 1 = services)
17	*ACI*	Audit committee independence (firm comprises 2/3rd independent directors, 1 = Yes, 0 = No)
18	*BIG4*	Big 4 auditors (whether the firm is audited by Big 4 auditors, 1 = Yes, 0 = No)
19	*PGD*	Percentage of grey directors
20	*PINED*	Percentage of independent directors
21	*PNIED*	Percentage of non-independent directors
22	*ACS*	Audit committee size

Table A.2. Descriptive statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	No. of obs.
ATS	1.906	0.746	28.201	0.001	3.116	3.451	19.106	1339
BMF	5.839	5.000	20.000	0.000	2.034	1.848	8.019	2361
LOGOA	1.433	1.462	2.072	0.000	0.357	-1.096	5.052	3076
NACM	5.028	4.000	21.000	2.000	1.665	2.870	16.133	2417
PAC	0.793	1.000	1.000	0.000	0.405	-1.447	3.094	3132
PCAC	0.793	1.000	1.000	0.000	0.405	-1.447	3.094	3132
RDTS	2.150	0.368	341.457	0.000	12.337	21.300	537.881	1158
ROA	7.736	6.700	77.150	-142.700	8.955	-1.836	42.719	2629
ROE	15.904	15.110	3818.010	-1109.110	82.407	36.597	1766.672	2591
TOBINSQ	12.301	3.656	6012.570	0.159	146.252	35.175	1324.670	2513
LOGMC	11.310	10.705	12.937	8.365	11.742	7.500	79.050	2368
PGD	28.240	27.270	100.000	0.000	16.660	0.800	4.537	2386
PINED	45.324	45.450	133.330	0.000	11.527	-0.421	6.593	2383
PNIED	26.462	26.090	83.330	0.000	13.719	0.314	2.669	2386
AUDITFEES	15.182	6.300	614.300	0.000	38.284	8.159	15.182	1084
AUDITORFEES	17.362	7.700	614.500	0.100	40.484	7.684	17.361	1084
NONAUDITFEES	2.240	0.900	120.000	0.000	5.871	11.223	181.291	1169
CEOD	0.184	0.000	1.000	0.000	0.388	1.631	3.661	3131
IC	0.270	0	1	0	0.444	1.035	2.072	3132
ACI	0.893	1.000	1.000	0.000	0.309	-2.544	7.470	2188
BIG4	0.190	0	1	0	0.392	1.581	3.498	3132
ACS	4.385	4.000	11.000	2.000	1.189	1.346	6.192	2214

Note: Audit fees, auditor fees, and non-audit fees are in millions.

Table A.3. Pearson correlation matrix

Variables (T-statistics) (Probability)	*ACS*	*ATS*	*BMF*	*LOGAUDITFEES*	*LOGAUDITORFEES*	*LOGMC*	*LOGNONAUDITFEES*	*LOGOA*	*PGD*	*PINED*	*PNIED*	*RDTS*	*ROA*	*ROE*	*TOBINS Q*
ACS	1.000 ----- -----														
ATS	0.220 0.597 0.569	1.000 ----- -----													
BMF	0.001 0.001 0.980	-0.230 -0.626 0.551	1.000 ----- -----												
LOGAUDITFEES	0.070 0.185 0.859	0.104 0.277 0.790	0.100 0.266 0.798	1.000 ----- -----											
LOGAUDITORFEES	0.070 0.185 0.859	0.104 0.277 0.790	0.100 0.266 0.798	0.992 126.84 0.000 ***	1.000 ----- -----										
LOGMC	-0.384 -1.100 0.308	0.332 0.932 0.383	-0.118 -0.315 0.762	-0.697 -2.570 0.037**	-0.697 -2.570 0.037**	1.000 ----- -----									
LOGNONAUDITFEES	0.052 0.138 0.895	0.480 1.449 0.191	0.412 1.198 0.270	0.278 0.767 0.468	0.278 0.767 0.468	0.184 0.494 0.636	1.000 ----- -----								
LOGOA	0.123 0.327 0.753	0.431 1.263 0.247	0.019 0.051 0.961	0.520 1.612 0.151	0.520 1.612 0.151	-0.108 -0.288 0.782	0.471 1.412 0.201	1.000 ----- -----							
PGD	0.249 0.681 0.518	0.920 6.202 0.000***	-0.247 -0.674 0.522	0.337 0.948 0.375	0.337 0.948 0.375	0.085 0.225 0.828	0.503 1.538 0.168	0.689 2.513 0.040**	1.000 ----- -----						
PINED	0.576 1.865 0.104	-0.239 -0.650 0.536	-0.080 -0.212 0.838	-0.092 -0.245 0.814	-0.092 -0.245 0.814	-0.529 -1.648 0.143	-0.447 -1.320 0.228	-0.608 -2.028 0.082	-0.299 -0.829 0.434	1.000 ----- -----					
PNIED	-0.673 -2.409 0.047**	-0.632 -2.157 0.068*	0.283 0.781 0.460	-0.182 -0.489 0.640	-0.182 -0.489 0.640	0.308 0.856 0.420	-0.077 -0.204 0.844	-0.068 -0.180 0.862	-0.626 -2.125 0.071*	-0.554 -1.760 0.122	1.000 ----- -----				
RDTS	0.137 0.367 0.724	0.080 0.212 0.839	0.130 0.346 0.739	0.450 1.333 0.224	0.450 1.333 0.224	-0.230 -0.625 0.552	0.370 1.055 0.327	0.921 6.246 0.000***	0.399 1.151 0.287	-0.529 -1.650 0.143	0.134 0.359 0.730	1.000 ----- -----			
ROA	0.056 0.149 0.886	-0.006 -0.016 0.988	0.057 0.152 0.883	-0.817 -3.744 0.007***	-0.817 -3.744 0.007**	0.637 2.186 0.065*	0.164 0.440 0.673	-0.489 -1.481 0.182	-0.224 -0.608 0.562	0.102 0.271 0.794	0.076 0.203 0.845	-0.413 -1.200 0.269	1.000 ----- -----		
ROE	0.196 0.528 0.614	0.595 1.958 0.091*	-0.104 -0.277 0.790	-0.573 -1.848 0.107	-0.573 -1.848 0.107	0.670 2.391 0.048**	0.368 1.047 0.330	-0.223 -0.606 0.564	0.347 0.979 0.360	0.029 0.077 0.941	-0.373 -1.065 0.322	-0.390 -1.119 0.300	0.787 3.379 0.012**	1.000 ----- -----	
TOBINSQ	0.182 0.490 0.639	0.889 5.144 0.001***	-0.188 -0.508 0.627	-0.293 -0.809 0.445	-0.293 -0.809 0.445	0.605 2.008 0.085*	0.355 1.004 0.349	0.085 0.225 0.828	0.676 2.429 0.046**	-0.140 -0.374 0.719	-0.520 -1.611 0.151	-0.227 -0.617 0.557	0.383 1.097 0.309	0.858 4.413 0.003***	1.000 ----- -----

*Note: *, **, and *** represents the significance at 10%, 5% and 1%, respectively.*

Table A.4. OLS and FEM-REM regression estimates of the audit committee with Tobin's Q (Part 1)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable Tobin's Q	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
LOGAUDITFEES	-0.432 (-0.906) (0.366)	-0.257 (0.233) (0.816)	-0.432 (-0.906) (0.386)	-0.423 (-0.746) (0.456)								
LOGAUDITORFEES					-0.479 (-0.952) (0.342)	-0.417 (-0.693) (0.489)	-0.479 (-0.952) (0.342)	-0.417 (-0.693) (0.489)				
LOGNONAUDITFEES									0.079 (0.150) (0.881)	0.079 (0.150) (0.881)	-0.020 (-0.042) (0.967)	0.434 (0.465) (0.643)
ACS	2.315 (5.844) (0.000)***	2.172 (4.039) (0.000)***	2.315 (5.844) (0.000)***	2.314 (5.521) (0.000)***	2.317 (5.851) (0.000)***	2.317 (5.529) (0.000)***	2.317 (5.851) (0.000)***	2.317 (5.529) (0.000)***	2.670 (5.736) (0.000)***	2.670 (5.736) (0.000)***	2.701 (6.165) (0.000)***	2.138 (3.469) (0.001)***
NACM	0.396 (1.100) (0.272)	-0.540 (-0.855) (0.393)	0.396 (1.100) (0.272)	0.219 (0.552) (0.582)	0.412 (1.134) (0.258)	0.224 (0.560) (0.576)	0.412 (1.134) (0.258)	0.224 (0.560) (0.576)	0.105 (0.245) (0.807)	0.105 (0.245) (0.807)	0.163 (0.413) (0.680)	-0.330 (-0.475) (0.637)
PGD	-0.256 (-2.936) (0.004)***	-0.211 (-2.226) (0.027)**	-0.256 (-2.936) (0.004)***	-0.243 (-2.881) (0.004)***	-0.259 (-2.961) (0.003)***	-0.245 (-2.895) (0.004)***	-0.259 (-2.961) (0.003)***	-0.245 (-2.895) (0.004)***	0.011 (0.103) (0.918)	0.011 (0.103) (0.918)	0.035 (0.308) (0.759)	-0.071 (-0.602) (0.548)
PINED	-0.328 (-3.706) (0.003)***	-0.176 (-1.713) (0.088)*	-0.328 (-3.706) (0.000 ***	-0.296 (-3.385) (0.001)***	-0.331 (-3.741) (0.000)***	-0.298 (-3.410) (0.000)***	-0.331 (-3.741) (0.000)***	-0.298 (-3.410) (0.000)***	-0.070 (-0.643) (0.521)	-0.070 (-0.643) (0.521)	-0.082 (-0.740) (0.460)	-0.002 (-0.013) (0.990)
PNIED	-0.324 (-4.172) (0.000)***	-0.324 (-3.094) (0.002)***	-0.374 (-4.172) (0.000)***	-0.370 (-4.186) (0.000)***	-0.377 (-4.196) (0.000)***	-0.371 (-4.198) (0.000)***	-0.377 (-4.196) (0.000)***	-0.371 (-4.198) (0.000)***	-0.134 (-1.187) (0.237)	-0.134 (-1.187) (0.237)	-0.106 (-0.922) (0.357)	-0.215 (-1.652) (0.101)
ATS	0.443 (2.635) (0.009)***	0.985 (1.766) (0.076)*	0.443 (2.635) (0.009)***	0.476 (2.481) (0.014)***	0.442 (2.633) (0.009)***	0.479 (2.498) (0.013)**	0.442 (2.633) (0.009)***	0.479 (2.498) (0.013)**	0.418 (1.910) (0.057)*	0.418 (1.910) (0.057)*	0.397 (2.001) (0.047)**	0.926 (1.396) (0.165)
RDTS	0.021 (0.251) (0.802)	0.219 (0.863) (0.389)	0.021 (0.021) (0.251)	0.033 (0.385) (0.701)	0.022 (0.270) (0.788)	0.035 (0.404) (0.687)	0.022 (0.270) (0.788)	0.035 (0.404) (0.687)	0.028 (0.311) (0.756)	0.028 (0.311) (0.756)	0.019 (0.221) (0.825)	0.265 (0.954) (0.265)
LOGOA	1.210 (0.776) (0.439)	4.694 (0.399) (0.690)	1.209 (0.776) (0.439)	0.105 (0.051) (0.959)	1.225 (0.786) (0.432)	0.109 (0.053) (0.957)	1.225 (0.786) (0.432)	0.109 (0.053) (0.957)	-0.491 (-0.219) (0.827)	-0.491 (-0.219) (0.827)	-0.489 (-0.261) (0.794)	10.274 (0.621) (0.535)
LOGMC	2.147 (5.731) (0.000)***	3.259 (4.038) (0.000)***	2.147 (5.732) (0.000)***	2.490 (5.568) (0.000)***	2.156 (5.742) (0.000)***	2.477 (5.557) (0.000)***	2.156 (5.742) (0.000)***	2.477 (5.557) (0.000)***	2.161 (4.604) (0.000)***	2.161 (2.604) (0.000)***	2.043 (4.844) (0.000)***	2.717 (2.881) (0.005)***
Intercept	-20.412 (-1.594) (0.000)***	-60.922 (-2.601) (0.010)***	-20.414 (-1.608) (0.109)	-28.831 (-2.094) (0.038)***	-19.554 (-1.501) (0.000)***	-27.212 (-1.926) (0.055)*	-19.601 (-1.519) (0.000)***	-28.393 (-2.020) (0.044)**	-51.275 (-3.305) (0.011)**	-51.275 (-3.305) (0.001)***	-47.718 (-3.275) (0.001)***	-83.622 (-2.945) (0.004)***
ACI(1 = Yes, 0 = No)	-1.758 (-1.027) (0.305)	-3.104 (-1.225) (0.222)	-1.758 (-1.027) (0.305)	-2.260 (-1.262) (0.208)	-1.801 (-1.052) (0.294)	-2.284 (-1.276) (0.203)	-1.801 (-1.052) (0.294)	-2.284 (-1.276) (0.203)	-1.360 (-0.646) (0.519)	-1.360 (-0.646) (0.519)	-0.981 (-0.488) (0.000)***	-1.806 (-0.611) (0.542)
BIG4(1 = Yes, 0 = No)	-0.687 (-0.623) (0.534)	-0.227 (-0.141) (0.888)	-0.687 (-0.623) (0.534)	-0.637 (-0.530) (0.597)	-0.680 (-0.618) (0.537)	-0.660 (-0.551) (0.582)	-0.680 (-0.618) (0.537)	-0.660 (-0.551) (0.582)	-0.752 (-0.587) (0.558)	-0.752 (-0.587) (0.558)	-1.004 (-0.838) (0.403)	0.205 (0.111) (0.912)

Table A.4. OLS and FEM-REM regression estimates of the audit committee with Tobin's Q (Part 2)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable Tobin's Q	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
CEOD(1 = Yes, 0 = No)	1.395 (1.193) (0.234)	0.260 (0.141) (0.888)	1.395 (1.193) (0.234)	1.490 (1.178) (0.240)	1.380 (1.180) (0.239)	1.486 (1.174) (0.242)	1.380 (1.180) (0.239)	1.486 (1.174) (0.242)	1.334 (0.932) (0.352)	1.334 (0.932) (0.352)	1.055 (0.807) (0.421)	1.289 (0.566) (0.572)
IC(1 = S, 0 = M)	-0.001 (-0.001) (0.999)	------	0.001 (0.001) (0.999)	1.140 (0.606) (0.545)	-0.048 (-0.031) (0.974)	-1.180 (-0.627) (0.531)	0.048 (0.031) (0.975)	1.180 (0.627) (0.531)	-51.275 (-3.305) (0.001)***	-0.398 (-0.176) (0.861)	1.055 (0.807) (0.000)***	-------
Adj. R-squared (%)	38.555	50.062	38.555	0.340	38.573	34.044	38.572	34.044	32.192	38.192	37.802	46.928
Hausman test specification	No	Yes (0.697)	No	Yes (0.697)	No	Yes (0.691)	No	Yes (0.693)	No	Yes (0.675)	No	Yes (0.675)
FEM	No	No	No	No	No	No	No	No	No	No	No	No
REM	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No
No. of observations	291	291	291	291	291	291	291	291	237	237	237	237

*Note: *, **, and *** represents the significance at 10%, 5% and 1%, respectively.*

Table A.5. OLS and FEM-REM regression estimates of the audit committee with ROA (Part 1)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable ROA	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
LOGAUDITFEES	-3.065 (-8.942) (0.000)***	-1.234 (-2.369) (0.019)**	-3.065 (-8.942) (0.000)***	-1.234 (-2.369) (0.019)***								
LOGAUDITORFEES					-3.065 (-8.942) (0.000)***	-1.234 (-2.369) (0.019)**	-3.223 (-8.818) (0.000)***	-1.340 (-2.396) (0.018)**				
LOGNONAUDITFEES									-1.260 (-3.967) (0.000)***	-0.742 (1.748) (0.083)*	-1.260 (-3.967) (0.000)***	-0.742 (-1.748) (0.063)*
ACS	-0.492 (-1.715) (0.088)*	0.112 (0.437) (0.662)	-0.492 (-1.715) (0.088)*	0.112 (0.437) (0.662)	-0.492 (-1.715) (0.088)*	0.112 (0.437) (0.662)	-0.474 (-1.650) (0.100)	0.123 (0.481) (0.631)	-0.097 (-0.339) (0.735)	-0.007 (-0.026) (0.979)	-0.097 (-0.339) (0.735)	-0.007 (-0.026) (0.979)
NACM	0.682 (2.616) (0.009)***	0.178 (0.586) (0.558)	0.682 (2.616) (0.009)***	0.178 (0.586) (0.558)	0.682 (2.616) (0.009)***	0.178 (0.586) (0.558)	0.759 (2.875) (0.004)***	0.180 (0.592) (0.555)	0.346 (1.334) (0.183)	0.169 (0.169) (0.533)	(0.346) (1.334) (0.183)	0.169 (0.533) (0.595)
PGD	-0.060 (-0.941) (0.348)	0.009 (0.203) (0.839)	-0.060 (-0.941) (0.348)	0.009 (0.203) (0.839)	-0.060 (-0.940) (0.348)	0.009 (0.203) (0.839)	-0.075 (-1.180) (0.239)	0.007 (0.143) (0.886)	-0.037 (-0.503) (0.615)	-0.027 (-0.504) (0.615)	-0.037 (-0.503) (0.615)	-0.027 (-0.504) (0.615)

Table A.5. OLS and FEM-REM regression estimates of the audit committee with ROA (Part 2)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable ROA	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
PINED	-0.012 (-0.270) (0.787)	0.023 (0.454) (0.651)	-0.012 (-0.178) (0.859)	0.023 (0.453) (0.651)	-0.012 (-0.178) (0.859)	0.023 (0.454) (0.651)	-0.033 (-0.509) (0.611)	0.017 (0.348) (0.728)	-0.061 (-0.834) (0.405)	0.022 (0.388) (0.699)	-0.061 (-0.834) (0.405)	0.022 (0.388) (0.699)
PNIED	-0.018 (-0.270) (0.787)	0.021 (0.410) (0.683)	-0.018 (-0.270) (0.787)	0.021 (0.409) (0.683)	-0.018 (-.270) (0.787)	0.021 (0.410) (0.683)	-0.036 (-0.550) (0.582)	0.016 (0.326) (0.016)	-0.005 (-0.061) (0.951)	-0.007 (-0.119) (0.905)	-0.005 (-0.061) (0.951)	-0.007 (-0.120) (0.905)
ATS	0.302 (2.459) (0.015)**	-0.334 (-1.238) (0.217)	0.302 (2.489) (0.015)**	-0.334 (-1.238) (0.217)	0.302 (2.459) (0.015)**	-0.334 (-1.238) (0.217)	0.306 (2.485) (0.014)**	-0.346 (-1.276) (0.204)	0.258 (1.949) (0.053)	-0.345 (-1.133) (0.259)	0.256 (1.949) (0.053) *	-0.345 (-1.133) (0.259)
RDTS	0.075 (1.227) (0.221)	-0.223 (-1.826) (0.069)*	0.075 (1.227) (0.221)	-0.223 (-1.826) (0.069)*	0.075 (1.227) (0.221)	-0.223 (-1.826) (0.069)*	0.085 (1.392) (0.165)	-0.226 (-1.849) (0.066)*	0.063 (1.090) (0.277)	-0.207 (-1.633) (0.105)	0.063 (1.090) (0.277)	-0.207 (-1.632) (0.105)
LOGOA	-2.168 (-1.914) (0.057)*	-21.964 (-3.943) (0.000)***	-2.168 (-1.914) (0.057)*	-21.964 (-3.943) (0.001)***	-2.168 (-1.914) (0.057) *	-21.964 (-3.943) (0.000 ***	-2.025 (-1.783) (0.076) *	-21.725 (-3.894) (0.000) ***	0.101 (0.083) (0.934)	-15.306 (-2.029) (0.044) **	0.101 (0.083) (0.934)	-15.306 (-2.029) (1.645)
LOGMC	3.784 (13.801) (0.000)***	2.285 (5.908) (0.000)***	3.784 (13.801 (0.000)***	2.285 (5.908) (0.000)***	3.784 (13.801) (0.000)***	2.285 (5.908) (0.000)***	3.784 (13.375) (0.000)***	2.240 (5.885) (0.000)***	2.604 (9.361) (0.000)***	1.645 (3.890) (0.000)***	2.604 (9.361) (0.000)***	1.645 (3.840) (0.000)***
Intercept	-31.546 (-3.360) (0.001)***	5.552 (0.489) (0.626)	-29.023 (-3.118) (0.002)***	5.552 (0.489) (0.626)	-31.546 (-3.360) (0.000)***	5.552 (0.489) (0.626)	-24.460 (-2.574) (0.011)**	8.768 (0.737) (0.462)	-27.541 (-2.877) (0.004)***	5.366 (0.417) (0.677)	-27.541 (-2.877) (0.004)***	5.366 (0.417) (0.677)
ACI(1 = Yes, 0 = No)	-0.079 (-0.062) (0.951)	-0.133 (-0.103) (0.918)	-0.079 (-0.062) (0.951)	-0.133 (-0.103) (0.918)	-0.079 (-0.062) (0.951)	-0.133 (-0.103) (0.918)	-0.416 (-0.327) (0.744)	-0.191 (-0.148) (0.883)	-1.965 (-1.486) (0.139)	-0.319 (-0.237) (0.813)	-1.965 (-1.486) (0.139)	-0.319 (-0.237) (0.813)
BIG4(1 = Yes, 0 = No)	2.071 (2.571) (2.071)	0.061 (0.082) (0.935)	2.071 (2.571) (0.011)**	0.061 (0.082) (0.935)	2.071 (2.571) (0.011)**	0.061 (0.081) (0.935)	2.017 (2.500) (0.013)**	-0.042 (-0.057) (0.955)	-0.045 (-0.057) (0.954)	-0434 (-0.520) (0.604)	-0.046 (-0.057) (0.954)	-0.437 (-0.520) (0.604)
CEOD(1 = Yes, 0 = No)	-1.230 (-1.491) (0.137)	-1.273 (-1.424) (0.156)	-1.230 (-1.491) (0.137)	-1.273 (-1.424) (0.156)	-1.230 (-1.491) (0.137)	-1.273 (-1.424) (0.156)	-1.315 (-1.588) (0.113)	-1.289 (-1.442) (0.151)	-1.659 (-1.999) (0.047)**	-1.291 (-1.242) (0.216)	-1.659 (-1.999) (0.047)**	-1.291 (-1.242) (0.216)
IC(1 = S, 0 = M)	2.523 (2.292) (0.023)**	------	-2.523 (-2.292) (0.023)**	-----	2.523 (2.292) (0.023)***	------	-2.247 (-2.029) (0.043)**	-----	-4.955 (-3.942) (0.000)***	-----	-4.955 (-3.942) (0.000)***	------
Adj. R-squared (%)	46.714	81.030	46.714	81.030	46.714	81.030	46.383	81.043	34.667	73.237	34.667	73.237
Hausman test specification	No	Yes*** (0.000)	No	Yes*** (0.000)	No	Yes*** (0.000)	No	Yes*** (0.000)	No	Yes*** (0.001)	No	Yes*** (0.001)
FEM	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
REM	No	No	No	No	No	No	No	No	No	No	No	No
No. of observations	292	292	292	292	292	292	292	292	238	238	238	238

*Note: *, **, and *** represents the significance at 10%, 5% and 1%, respectively.*

Table A.6. OLS and FEM-REM regression estimates of the audit committee with ROE (Part 1)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable ROE	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
LOGAUDITFEES	-22.293 (-4.933) (0.000)***	-22.918 (-4.477) (0.000)***	-22.293 (-4.933) (0.000)***	-22.918 (-4.477) (0.000)***								
LOGAUDITORFEES					0.628 (1.071) (0.343)	-0.603 (-0.640) (0.523)	-22.986 (-4.783) (0.000)***	-11.730 (-1.000) (0.319)				
LOGNONAUDITFEES									-0.927 (-1.192) (0.234)	-1.139 (-1.164) (0.246)	-0.927 (-1.192) (0.234)	-1.139 (0.393) (0.375)
ACS	-7.057 (-1.916) (0.056)*	-6.405 (-1.646) (0.101)	-7.057 (-1.916) (0.056)*	12.285 (0.721) (0.472)	-0.353 (-2.644) (0.009)***	0.430 (0.609) (0.544)	-6.927 (-1.876) (0.062)*	0.662 (0.126) (0.900)	0.890 (1.267) (0.207)	0.272 (0.424) (0.672)	0.889 (1.267) (0.207)	0.272 (0.084) (0.213)
NACM	7.241 (2.150) (0.032) **	6.289 (1.720) (0.087) *	7.241 (2.150) (2.150)	6.269 (1.720) (0.089) *	-0.521 (0.251) (0.179)	0.153 (0.330) (0.742)	7.691 (2.257) (0.025) **	-0.185 (-0.030) (0.976)	0.580 (0.912) (0.363)	-0.888 (-1.215) (0.226)	0.580 (0.912) (0.363)	-0.888 (0.188) (0.175)
PGD	-0.727 (-0.889) (0.375)	-0.663 (-0.821) (0.412)	-0.727 (-0.889) (0.375)	-0.663 (-0.821) (0.413)	-0.221 (0.002) (0.942)	0.010 (0.087) (0.931)	-0.831 (-1.012) (0.312)	-0.392 (-0.421) (0.674)	-0.081 (-0.447) (0.656)	0.014 (0.115) (0.908)	-0.081 (-0.447) (0.656)	0.014 (0.001) (0.000)***
PINED	-0.885 (-1.064) (0.288)	-0.865 (-1.034) (0.300)	-0.885 (-1.064) (0.288)	-0.865 (-1.038) (0.300)	-0.166 (0.003) (0.047) *	-0.058 (-0.505) (0.614)	-1.042 (-1.251) (0.212)	-0.320 (-0.315) (0.753)	-0.130 (-0.728) (0.470)	-0.023 (-0.174) (0.862)	-0.130 (-0.729) (0.467)	-0.023 (0.002) (0.344)
PNIED	-0.413 (-0.492) (0.623)	-0.340 (-0.404) (0.687)	-0.413 (-0.492) (0.623)	-0.339 (-0.404) (0.687)	-0.336 (0.003) (0.838)	-0.136 (-1.142) (0.255)	-0.539 (-0.638) (0.524)	-0.080 (-0.077) (0.939)	-0.090 (-0.486) (0.627)	0.033 (0.243) (0.809)	-0.090 (-0.486) (0.627)	0.033 (0.002) (0.191)
ATS	0.818 (0.518) (0.605)	0.830 (0.477) (0.634)	0.818 (0.518) (0.605)	0.830 (0.477) (0.634)	1.122 (0.295) (0.266)	0.474 (1.958) (0.051) *	0.861 (0.544) (0.587)	0.498 (0.091) (0.928)	1.079 (3.358) (0.001)***	-0.504 (-0.718) (0.474)	1.079 (3.358) (0.001)***	-0.504 (1.051) (0.369)
RDTS	-2.000 (-0.256) (0.798)	-0.214 (-0.268) (0.789)	-0.200 (-0.256) (0.798)	-0.214 (-0.268) (0.789)	0.231 (0.061) (0.354)	-0.012 (-0.120) (0.904)	-0.128 (-0.164) (0.870)	-0.205 (-0.082) (0.934)	-0.012 (-0.087) (0.931)	-0.490 (-1.678) (0.095) *	-0.012 (-0.087) (0.931)	-0.490 (0.067) (0.069)*
LOGOA	9.864 (0.677) (0.499)	11.769 (0.665) (0.507)	9.864 (0.677) (0.499)	11.769 (0.665) (0.508)	10.021 (141.629) (0.459)	0.818 (0.327) (0.744)	10.852 (0.743) (0.458)	-161.956 (-1.403) (0.162)	-0.983 (-0.328) (0.743)	-39.709 (-2.284) (0.024)**	-0.983 (-0.328) (0.743)	-39.709 (283.917) (0.031)**
LOGMC	13.748 (3.890) (0.000)***	13.299 (3.287) (0.001)***	13.748 (3.900) (0.000)***	13.299 (3.287) (0.001)***	3.675 (0.453) (0.343)	2.994 (5.619) (0.000)***	13.615 (3.837) (0.000)***	9.898 (1.277) (0.203)	2.438 (3.580) (0.000)***	-0.188 (-0.193) (0.847)	2.438 (3.580) (0.000)***	-0.188 (0.514) (0.232)
Intercept	65.682 (0.544) (0.586)	78.149 (0.608) (0.544)	66.386 (0.555) (0.579)	79.983 (0.625) (0.523)	-86.531 (-3.503) (0.000) ***	-61.171 (-3.574) (0.000) ***	95.783 (0.785) (0.000) ***	229.899 (0.954) (0.319)	-20.197 (-0.851) (0.396)	110.680 (3.736) (0.000)***	-18.450 (-0.787) (0.432)	110.680 (3.736) (0.000)***
ACI(1 = Yes, 0 = No)	8.723 (0.537) (0.592)	12.285 (0.721) (0.472)	8.723 (0.537) (0.592)	12.285 (0.721) (0.472)	-1.506 (3.152) (0.626)	0.960 (0.432) (0.666)	6.340 (0.389) (0.698)	10.806 (0.413) (0.680)	-2.714 (-0.838) (0.403)	-0.781 (-0.252) (0.802)	-2.714 (-0.838) (0.403)	-0.781 (-0.252) (0.802)
BIG4(1 = Yes, 0 = No)	21.860 (2.079) (0.039)**	18.575 (1.652) (0.099)*	21.680 (2.079) (0.039)**	18.574 (1.652) (0.099)*	-0.142 (1.145) (0.804)	-0.260 (-0.184) (0.854)	21.081 (2.019) (0.044)**	2.625 (0.170) (0.865)	-2.782 (-1.370) (0.172)	0.580 (0.302) (0.763)	-0.504 (-0.257) (0.797)	0.598 (0.302) (0.763)

Table A.6. OLS and FEM-REM regression estimates of the audit committee with ROE (Part 2)

Dummy variables	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 1***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***	***ACI = 1 BIG4 = 1 CEOD = 1 IC = 0***
Dependent variable ROE	***Model 1 (T-statistics) (Probability)***	***Model 2 (T-statistics) (Probability)***	***Model 3 (T-statistics) (Probability)***	***Model 4 (T-statistics) (Probability)***	***Model 5 (T-statistics) (Probability)***	***Model 6 (T-statistics) (Probability)***	***Model 7 (T-statistics) (Probability)***	***Model 8 (T-statistics) (Probability)***	***Model 9 (T-statistics) (Probability)***	***Model 10 (T-statistics) (Probability)***	***Model 11 (T-statistics) (Probability)***	***Model 12 (T-statistics) (Probability)***
CEOD(1 = Yes, 0 = No)	3.155 (0.298) (0.766)	0.922 (0.080) *	3.154 (0.298) (0.766)	0.922 (0.080) (0.936)	1.684 (1.842) (0.512)	2.578 (1.678) (0.095)*	2.548 (0.240) (0.811)	-3.931 (-0.217) (0.828)	-2.782 (-1.370) (0.172)	-2.625 (-1.096) (-0.275)	-2.783 (-1.370) (0.172)	-2.625 (-1.100) (0.275)
IC(1 = S, 0 = M)	0.704 (0.049) (0.960)	1.834 (0.110 (0.912)	-0.704 (-0.049) (0.960)	-1.834 (-0.110) (0.912)	0.983 (0.491) (0.624)	0.163 (0.064) (0.949)	1.141 (0.080) (0.936)	-------	1.748 (0.568) (0.571)	-------	-1.748 (-0.568) (0.571)	------
Adj. R-squared (%)	8.843	6.332	8.843	6.332	19.918	21.845	8.398	19.519	11.473	67.866	11.473	67.867
Hausman test specification	No	Yes (0.524)	No	Yes (0.524)	No	Yes (0.460)	No	Yes (0.438)	No	Yes*** (0.000)	No	Yes*** (0.000)
FEM	No	No	No	No	No	No	No	No	No	Yes	No	Yes
REM	No	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No
No. of observations	289	289	289	289	289	289	289	289	238	238	238	238

*Note: *, **, and *** represents the significance at 10%, 5% and 1%, respectively.*