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Impact of audit committee characteristics and external audit quality on firm performance: evidence from India

Waleed M. Al-ahdal and Hafiza Aishah Hashim

Abstract

Purpose – *The purpose of this paper is to analyse the influence of audit committee characteristics and external audit quality on the performance of non-financial public limited companies listed on the National Stock Exchange 100.*

Design/methodology/approach – *One-way random effect panel data regression was applied to 74 non-financial firms in the Nifty 100 from 2014 until 2019. The overall audit committee index and external audit index were built based on the new Indian Companies Act, 2013 and on a review of the literature to capture the impact of the new Act on firm financial performance.*

Findings – *The outcome of the study revealed that there is lack of evidence to show that audit committee characteristics improve the performance of top Indian non-financial listed firms. However, external audit quality was found to have a significant positive impact on the financial performance of firms as measured by Tobin's Q, while firm size and leverage were found to have a significant impact on the financial performance of firms as measured by return on assets and return on equity.*

Practical implications – *This paper will be greatly beneficial for financial practitioners and policymakers because it provides practical suggestions and recommendations about the types of external audit that are indispensable for the overall effectiveness and performance of firms. The study findings may also aid strategic policy formulation and execution for better corporate governance practices for the purpose of profit and wealth maximisation.*

Originality/value – *To the best of the authors' knowledge, to date, no previous research has evaluated the effects of audit committee features and external audit quality on the financial performance of firms in India after the implementation of the new Companies Act, 2013. Hence, this study fills this void in the present literature by examining the overall features of the audit committee and external audit and their impact on firm performance in the setting of India.*

Keywords *India, Financial performance, Audit committee, External audit*

Paper type *Research paper*

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1. Introduction

The recent collapse of high-profile global corporations has triggered immense interest among investors, regulators and academicians. As documented by Srivastava (2009), weaknesses in corporate governance practices such as sub-standard external audit and ineffective audit committees were largely responsible for such failures. The disastrous failures and excessive losses of major firms, such as Enron Corporation, WorldCom and Tyco International, all based in the USA, further reinforced the view that there is a critical need to enhance the quality of corporate governance in developed and underdeveloped nations. The recent collapse of corporate entities, coupled with financial scandals in Asian countries, as in the cases of Satyam in India, Citic Pacific in China, and SK Networks in South Korea, which represent perfect examples of corporate governance failure.

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Several countries reacted to these undesirable fiascos by enacting corporate governance-oriented legislation aimed at improving corporate disclosure, procedures and practices (Chhaochharia and Laeven, 2009), not least because corporate failures have severely affected the confidence of stakeholders in terms of the truthfulness and reliability of accounting reports. The transparency and disclosure of material facts in accounting statements has led to a rise in "window dressing", which is detrimental to the smooth functioning of any business entity. In several cases of corporate fraud, it was discovered that the external auditors were actively involved in such activities (Mutasher, 2016). Yet, it is the paramount duty of external auditors to provide an accurate and reliable assessment of financial statements to prevent accounting malpractice and to unearth any deviations from adopted accounting principles and practices. Several researchers have pointed out that the reputation of the brand name of the auditor and the size of the audit firm significantly affect the strength and ability of auditors in monitoring the financial performance of their clients (Mutasher, 2016). These attributes enable the auditor to produce quality assessments and reports that ultimately enhance firm performance (Cheng *et al.*, 2014). In contrast, Scarbrough *et al.* (1998) noted that investors favour a decision to change the auditor from a larger firm to a smaller one.

In this era of globalisation and the ever-increasing importance of corporate governance and firm growth, the need for business governance to enhance firm value is recognised worldwide (Haniffa and Hudaib, 2006). The performance measurement apparatus plays a fundamental role as a source of information regarding financial output as presented in financial statements. It offers a solid basis on which decision-making ideas and processes are made, particularly with regard to planning and monitoring activities (Neely, 1999). The recent financial crisis has directed significant attention towards business governance, as revealed by Peni and Vähämaa (2012). Companies that have better corporate governance practices have been shown to have higher corporate performance. Hence, all countries are continuously working to improve their corporate governance codes and guidelines, practices and procedures. Moreover, robust corporate governance practices mandated and promoted by government and regulatory agencies are significant factors in attracting both domestic and international investors.

The recently amended Indian Companies Act, 2013 has made the introduction of an audit committee compulsory, and the committee is required to fulfil some conditions specified in the regulations. For instance, the audit committee is required to assess and determine the utilisation of investments of publicly traded entities injected into unquoted subsidiaries, such as offshore-based subsidiaries (Bansal and Sharma, 2016). The Act also requires that the audit committee scrutinise the utilisation of capital in the event that the parent company has extended funds such as corporate loans, endowments and other fund advances (investments) that are above 100 crore rupees or constitute at least 10% of all the assets owned by the subsidiary, whichever is lower. It also mandates that the audit committee meet a minimum of five times per annum. In addition, it stipulates that other supplementary committees convene a minimum of one time per year. The Act also requires that one independent or unconnected director is present at these committee meetings (Shikha and Mishra, 2019).

As regards the auditing of companies, the Companies Act of 2013 mandates that during its first annual general meeting, every company appoints an auditor, who will serve from the end of the fifth annual general meeting to the end of the sixth annual general meeting. It further specifies that an individual or audit firm who has served as an auditor for a business shall not be hired as an auditor for another company for a period of five years after that term has ended. Further, the Act stipulates that an audit firm that has a common partner/partners in another audit firm whose term of appointment with a company has expired immediately preceding the current financial year cannot be appointed as auditor of that company for a period of 5 years (KPMG, 2014).

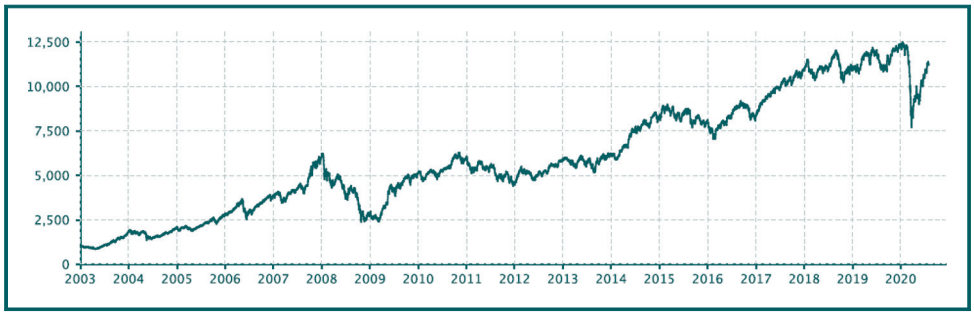
The Act also states that the board should organise a committee for auditing purposes and it should comprise a minimum of three outside (non-executive) directors. It also requires that the duties, authority and responsibilities of the non-executive directors should be listed and stated clearly in a terms of reference document, and mandates that it is the duty and liability of the board of directors to uphold and ensure good corporate governance practices. As explained by Ittonen *et al.* (2010), it is the sanctioned authority and duty of auditors to safeguard the investments of shareholders and other relevant parties by determining the financial and accounting accuracy of information released by the company (Ittonen *et al.*, 2010).

The significance of this study lies in its exploration of those principles and procedures that are critical to the overall financial performance of corporate entities. It focuses on how the audit committee and the external audit ultimately contribute to the overall financial well-being of corporations. In this respect, this study is vital to both financial actors (investors and creditors) and academics. Furthermore, by evaluating the influence of the audit committee and external audit on the firm value of the top 100 non-financial businesses listed on the Nifty 100 Index of the National Stock Exchange of India, this study adds to the limited literature on corporate governance in India. As far as the researchers are aware, no empirical work is available that links the audit committee and external audit to capture the strength of their effect on firm financial performance in Nifty non-financial listed firms in India after the introduction of the new Companies Act, 2013.

The Nifty 100 Index is a basket of firms that measures the stock market performance and price movements of the top 100 firms that are listed on the Nifty 500. The proprietary rights of the index belong to NSE Indices Limited, which operates and controls its functions. NSE Indices is a specialised company that solely focuses on the Nifty index as a core product. The Nifty 100 Index contains the largest 100 companies based on full market capitalisation in the Nifty 500. A capitalisation method that is based on a free float is used to determine which companies to include in the Nifty 100. The free float method enables the market capitalisation of an entity to be determined by taking the share price and multiplying it by the number of shares that are already issued in the market.

Figure 1 depicts the financial performance of the Nifty 100 Index over a 17-year period from 2003 to 2019. It can be observed that the period from 2003 to 2008 saw a steady increase in the value of the index. However, there was a sharp decline from 2008 to 2009. This drop is attributed to the spillover effects of the global financial crisis. Notably, the index rebounded sharply in mid-2009 and thereafter, rose at a gradual and steady rate until 2011. The effect of the European debt crisis led to a slight fall in the index from 2011 to 2012. Thereafter, the index rebounded again from 2012 and witnessed a gradual rise until early 2015. However, as the year 2015 progressed into 2016, the index experienced a significant decline in its value. Then, the period from 2016 to 2019 witnessed a persistent rise that was characterised by price fluctuations. It is also noteworthy that the sudden and sharp fall of

Figure 1 Performance of Nifty 100



the index at the end of 2019 was a direct result of the severe impact that the coronavirus (Covid-19) pandemic had on global markets.

As the Nifty 100 is a very competitive benchmark index, it is of interest to the researchers because it provides a good source by which to assess the performance of Indian listed firms. Therefore, the study assesses the impact of the audit committee and the external audit on firm financial performance of Nifty 100 listed non-financial firms by following the necessary steps and using relevant statistical tools. Recent research work has documented the impact of the audit committee and the external audit on the financial performance of firms in different countries. Although several research studies have investigated the influence of the audit committee and external audit on several sectors of the Indian economy, to date no studies have focused on Nifty 100 non-financial listed firms in India after the introduction of a new Companies Act in 2013.

Hence, the current research makes several contributions because it attempts to investigate the impact of audit committee features and external audit quality on the performance of Nifty 100 firms in India. India is an emerging country and therefore represents an interesting case for such research. Further, the sampled companies are big companies which may be viewed as role models for other companies in India in terms of their business practices and policies. Some of previous studies were carried out in countries other than India, especially developed countries. However, the results of these studies may be less pertinent for emerging countries. Consequently, the findings of these studies may or may not be relevant to the Indian market condition because the corporate governance code in India is different from the codes in other countries. In the same vein, the institutional setting and the Indian financial reporting regime is not the same as that of developed countries. Given the above, the current research potentially has practical as well as theoretical implications not only for India but also for some other emerging economies. Accordingly, this research provides valuable insights into several governance and reporting issues related to firm performance. Such insights may be of interest and use to regulators, policymakers, professionals, auditors, practitioners and academicians.

The rest of the paper is organised as follows: The literature review and hypothesis development are presented in Section 2. Then the adopted methodology including the relevant statistical tools and techniques that are used to evaluate and analyse the data sets are presented in Section 3. Then, Section 4 provides descriptions of the regression assumptions, after which Section 5 presents the regression results and discusses them in the context of existing knowledge. Lastly, a summary of the study and its findings are provided in Section 6.

2. Related literature and hypothesis development

In recent years, many capital market regulators and scholars have become aware of audit committees and external auditors. The primary responsibility of these two bodies is to oversee financial reporting methods to assure accurate reporting of company performance (Almaqtari *et al.*, 2021; Safari Gerayli *et al.*, 2021). Although the disclosure of material information affecting the performance of the business is in accordance with the principle of utmost good faith, this is not always the case. Akhtaruddin and Haron (2010) documented several factors that lead to the publication of information in corporate annual reports. In particular, they listed the entrenchment hypothesis, information postulate, theory of the firm and agency shortfalls as reasons for the disclosure of information.

According to agency theory, the disputes and disagreements that arise between managers and shareholders often emanate from the former giving precedence to their own interests over those of the shareholders. The theory also attributes this phenomenon to poor managerial ethics, etiquette, and behaviour (Ika and Ghazali, 2012). Where this is the case, poor corporate governance practices, absence of effective control and monitoring

techniques, and lack of enforcement of market and operational regulations create a perfect environment for managerial malpractices. Consequently, the interests of shareholders are not protected and realised.

Therefore, the creation and existence of an audit panel in a firm is an essential remedy that not only ensures effective and efficient managerial practices but also leads to profit and wealth maximisation for shareholders (Al-Matari *et al.*, 2014; Alqatamin, 2018). A noticeable consideration in the literature on this issue concerns the link between the audit committee, external auditor and company performance (Almaqoushi and Powell, 2020; Bansal and Sharma, 2016; Chaudhry *et al.*, 2020; Ika and Ghazali, 2012). However, the relevance of audit committee characteristics and the external auditor have not been investigated in-depth with reference to Indian firms. The most recent literature on audit committee characteristics, external audit quality and company performance is summarised in Table 1.

The audit committee and external audit quality, according to the literature and agency theory, are the most essential corporate governance tools for minimising managers' unlawful acts, enhancing financial performance and boosting the reliability of financial reporting. Hence, this study seeks to bridge this research gap through evaluating the importance of the role of audit committee characteristics and external audit quality in the performance of the top non-financial firms in India after the introduction of the Companies Act, 2013.

2.1 Relationship between audit committee characteristics and firm financial performance

The Companies Act, 2013 was a long overdue Act that was enacted to address the shortfalls of the Companies Act, 1956. This landmark legislation has had a profound impact on corporate governance. When it comes to corporate governance, the Companies Act places emphasis on ensuring the absolute freedom of members of the board, particularly directors, for effective and efficient management and control. The aim is to protect and provide for the greater benefit of the shareholders and other concerned parties. The legislation stresses the importance of upholding the principles of accountability, answerability, clarity and transparency. Additionally, it places liability on independent directors for any misconduct or deliberate acts of omission or commission arising in the company with their full knowledge (Shikha and Mishra, 2019). The law also provides recommendations and rules on the formation committees that conduct auditing, with specific regard to size, undue influence, qualifications and experience, number or percentage of women on the committees and regularity of meetings. Following the inception of the Act, it became compulsory for all quoted entities to adhere to the guiding principles relating to the characteristics of the audit committee.

Contemporary literature regarding the connection between audit committee features and firm performance in the context of India and other comparable countries has produced inconclusive results. For example, Bansal and Sharma (2016) investigated the effect of audit committee features such as committee independence and meeting frequency in enhancing overall business performance. The authors used fixed effects regression analysis on panel data of 235 publicly traded non-financial companies on the NSE 500 for a sample duration of 10 years, that is, from 2004 to 2013. Their results revealed a significant positive association of audit committee independence and frequency of audit committee meetings with the aggregate financial output (performance) of Indian firms. In a similar vein, Chaudhry *et al.* (2020) analysed the influence of the experience and proficiency of the chair of the audit committee on the financial well-being of Indian firms. The outcome of their study indicated that the financial and monitoring competence of the audit committee positively improves yield on assets, yield on equity and the net earnings margin.

Table 1 Studies related to audit committee characteristics, external audit quality and firms' performance in India

Authors	*Findings*	*Author keywords*
Al-Homaidi *et al.* (2021)	Audit committee size, composition, diligence and size of a company have a significant relationship with ROA and EPS	Corporate governance; Profitability; India
Sehrawat *et al.* (2019)	CG factors, namely, audit committee autonomy, board magnitude and dualism CEO's role do not affect firm's operational performance	Audit committee independence; Corporate governance; Firm performance; Return on assets; Tobin's Q
Al-ahdal *et al.* (2020)	Results revealed that audit committee has an immaterial sway or influence on firms' operational performance as established using ROE in conjunction with Tobin's Q	Corporate governance; Financial performance; GCC; India
Kaura *et al.* (2019)	The results revealed that corporate governance has a considerable positive impact on IT company financial performance, with Audit Committee Independence having the greatest impact	Corporate governance; Financial performance; IT companies
Narayanaswamy and Raghunandan (2019).	For the period/term spanning from 2014 to 2017, empirical proof affirms that compulsory and constant change of audit firm neither augment the quality of audit nor lower audit charges. Moreover, it fails to validate rising competition if the audit market	Auditor changes; Audit fees; Audit quality; Audit market concentration
Yameen *et al.* (2019)	Analysis output substantiates the negative influence of board and audit committee magnitude negatively on the operational performance of Indian resorts, Contrarily, audit committee's constitution and attentiveness, positively stimulate the productivity of Indian resorts as presented by accounting surrogates. Results also reveal that audit committee's size positively affects the Indian hotels' performance measured by marketing surrogates	Corporate governance; Firms' performance; Indian tourism sector
Houqe *et al.* (2017)	Established that firms that hire auditors of quality pedigree have a suppressed capacity of managing their earnings and possess a reduced cost-of-share-capital. The outcome also portray that firms allied to business associations have a reduced magnitude of earnings control and a reduced cost of share capital relative to do non-aligned firms. However, these non-aligned entities avail minimal gain by engaging a highly skilled and reputed auditor	Auditing expertise; Big 4 auditor; Earnings management
Sarpal (2017)	The audit committee's independent directors start contributing to better business accounting performance once they reach a majority. Results also found that audit committee activity has a significant correlation with firm performance	Audit committee; Curvilinear effect; Firm performance; Indian companies
Chahal and Kumari (2013)	Boardroom features or composition have been unearthed to possess an insignificant influence on business' operational performance. Audit committee is discovered to have a substantial role in business performance (i.e. ROA, ROE and Tobin's q)	Banking; Boardroom performance; Business performance; Corporate governance; India

In the context of Taiwan, the audit committee's impact on business performance and risk was investigated by Chiu *et al.* (2021). Their findings revealed that when a Taiwanese listed company, particularly one managed by a family, implements an audit committee, it has higher performance and reduced risk. In another setting, Alqatamin (2018) investigated the impact of audit committee attributes on the overall production output of companies. From 2014 to 2016, the study examined 165 non-financial businesses listed on the Amman Stock Exchange. Their findings showed that audit committee size, autonomy and gender heterogeneity all had substantial and favourable interrelationships with performance. Similarly, Dakhlallh *et al.* (2020), Khan *et al.* (2017), and Musallam (2020) have conducted their study in Jordan, Pakistan and Palestine, respectively. They found that audit committee meetings, audit committee size and audit committee financial competence are positive and significantly associated with corporate performance. On the other hand, Al-Matari *et al.* (2014) investigated the connection between audit committee characteristics and firm performance for 169 firms listed on the Oman securities market, and found a positive association between audit committee size, audit committee independence and firm performance, but the associations were not significant.

In the context of Malaysia, Kallamu and Saat (2015) looked at the impact of audit committee characteristics on financial company performance before and after a corporate governance code was implemented. The inclusion of independent audit committee members was shown to have a significant beneficial impact on financial performance, according to their results. Further, the results revealed that directors who serve on both the audit and nominating committees have a considerable, but unfavourable, impact on profitability. The size of the audit committee, on the other hand, has no effect on operational success, according to the researchers. Based on the above literature, the following hypothesis was developed for this study:

H1. There is no significant impact of audit committee characteristics on firm performance.

H1a. There is no significant impact of audit committee characteristics on return on assets.

H1b. There is no significant impact of audit committee characteristics on return on equity.

H1c. There is no significant impact of audit committee characteristics on Tobin's Q.

2.2 Relationship between external audit quality and firm financial performance

Prior studies have evaluated the role and effectiveness of the external auditor in relation to the performance of the firm. It has been observed that the presence of a strong, experienced and proficient external auditor significantly improves and enhances the financial performance of the company. This is because the auditor performs their duties in an appropriate and professional manner. For instance, Enekwe *et al.* (2020) researchers looked at the impact of audit quality on the financial performance of Nigerian listed industrial companies from 2006 to 2016. The authors looked into the impact of auditor independence, audit committee membership and audit fee on return on assets among publicly traded manufacturing companies. Auditor independence has a positive and considerable impact on the financial performance of publicly traded manufacturing companies, according to their results. The authors also concluded that the elements of audit quality have an effect on the financial performance of Nigerian manufacturing companies.

Rahman *et al.* (2019) studied the effect of audit characteristics on company performance in the perspective of Vietnam. External audit quality (as measured by the Big-4 auditors Deloitte, PricewaterhouseCoopers, Ernst & Young and KPMG) and audit committee size are significantly positively linked with firm performance, according to the multivariate regression results. Additionally, the authors discovered a substantial negative correlation between the number of audit committee sessions and firm performance. Sayyar *et al.* (2015) investigated the impact of audit quality on the firm performance of Malaysian listed businesses. To reflect audit quality, the study used audit fees and audit firm rotation, as well as yield on return on assets and Tobin's Q as drivers of firm performance. The study found that there was no substantial link between audit quality (audit fees and audit firm rotation) and return on assets. The study also showed that audit fee is strongly and positively connected to Tobin's Q, with audit firm alternation or rotation being insignificantly associated.

Al-Mamun *et al.* (2014) examined the association of audit committee attributes and external auditors with the firm performance of publicly traded companies in Malaysia during the period 2008 to 2010. The authors harnessed economic value added as a performance assessment tool. Their findings indicated that the lack of undue influence (independence) on the audit committee has a positive interconnection with overall firm achievement, whereas external auditors has a negative impact on firm performance.

In a different emerging economy, Martinez and Moraes (2014) assessed the inherent link between charges due to auditors and the firm performance of publicly traded companies in Brazil between 2009 and 2010. The authors used Tobin's Q to assess firm performance. They argued that greater audit quality would enhance firm value. The empirical outcome of their assessment revealed a positive link between audit charges and the value of the firm. Based on the above literature, this study's hypothesis was:

H2. There is no significant impact of external audit quality on firm performance.

H2a. There is no significant impact of external audit quality on return on assets.

H2b. There is no significant impact of external audit quality on return on equity.

H2c. There is no significant impact of external audit quality on Tobin's Q.

As mentioned in the Section 1, no research was found in the existing literate that evaluates the effect of audit committee features and external auditor quality on the financial health of Indian firms after the implementation of the new Companies Act, 2013. Hence, this study strives to fill the void in the current literature. The conceptual background in Figure 2 explains the conceptual framework under which the entire investigation was conducted. This provides a detailed approach that the authors pursued in achieving the objective of the study.

3. Methodology

3.1 Sample and data

This study focused exclusively on firms in the Nifty 100 Index. The sample was restricted to Nifty 100 firms for two reasons. First, the Nifty 100 is a diversified basket of stocks that represent major industrial sectors of the economy based on full market capitalisation. Second, the Nifty 100 accounts for about 76.8% of the free-float market capitalisation of the stocks listed on the NSE as of 29 March 2019.

Out of the 100 firms, 24 banks and financial institutions were excluded from the scope of the study to ensure uniformity in the computation of accounting and marketing ratios. Thus, this study concentrated on non-financial firms. A further two companies were excluded from the sample due to insufficient information on the selected parameters. As a result, the final sample consisted of 74 non-financial firms. For the six-year sample period from 2014 to 2019 there were 444 year observations. This period was purposefully chosen because the new Companies Act was enacted in 2013.

The study's data was taken from official business annual reports. Data was gathered from the CMIE (Centre for Monitoring Indian Economy) Prowess Database to measure company performance and leverage. The sample data was randomly selected from 15 industrial sectors by choosing three companies from each sector. The final sample consisted of 60 firms from the automobile, cement product, consumer goods, IT, metals, oil and gas and pharmaceutical sectors. The remaining 14 firms were from the construction, manufacturing, power, services and telecoms sectors.

Figure 2 Research framework

Note: NC: Number of companies

3.2 Variable measurements

Table 2 includes a description of the factors as well as a list of the surveyed literature that confirm the chosen variables and measures.

This study considered three dependent variables, two explanatory variables and two control variables.

3.2.1 Dependent variables. The three dependent variables in this study were:

1. *Return on assets*: determined as the proportion or percentage of the net profit of one year for the aggregate assets of the same year.
2. *Return on equity*: assessed by dividing the profit after tax/shareholder equity.
3. *Tobin's Q*: it is determined by dividing the company's total assets on its total market value, which is calculated as aggregate market value of firm/aggregate asset value of firm.

3.2.2 Independent variables. The two independent variables in this study were audit committee characteristics and external audit quality, which were assessed according to a checklist of 20 items (see Appendix A) drawn from the literature (Aggarwal *et al.*, 2010; Aslam and Haron, 2020; Chaudhry *et al.*, 2020; Khan and Subhan, 2019; Stewart and Munro, 2007) and the new Companies Act, 2013.

3.2.3 Control variables. This study used two control variables:

1. *Leverage*: is determined by dividing total liabilities on total assets.
2. *Firm size*: is determined by the natural logarithm of total assets.

Table 2 Definition of variables

Type of variable	*Name of variable*	*Symbol*	*Proxy measure*	*Use in current literature*
Dependent variables	Return on assets	ROA	It can be determined as the proportion or percentage of the net profit of one year for the aggregate assets of the same year. ROA = Profit after Tax/Total Asset	(Al-ahdal *et al.*, 2021; Al-Matari *et al.*, 2014; Bacha *et al.*, 2020; Tuan Ibrahim *et al.*, 2020)
	Return on equity	ROE	A profitability ratio determines the extent of how effective a firm is in using its total assets to generate returns. ROE = Profit after Tax/Total Equity	(Kallamu and Saat, 2015; Khan and Subhan, 2019)
	Tobin's Q	TQ	In calculating Tobin's Q, market capitalisation divided by the aggregate value of all the companies' assets. TQ= Total market value of firm/Total asset value of firm	(Al-ahdal *et al.*, 2021; Al-Matari, 2019 ; Dakhlallh *et al.*, 2020)
Independent variables	Audit committee	ACC	Audit committee characteristics (10 items)	(Al-ahdal *et al.*, 2020; Oussii and Klibi, 2020; Chaudhry *et al.*, 2020)
	External audit	EAQ	External Audit quality (10 items)	(Al-Mamun *et al.*, 2014; Martinez & Moraes, 2014)
Control variables	Leverage	LEV	It is determined by dividing the aggregate liabilities upon aggregate assets	(Al-ahdal *et al.*, 2020; Al-matari *et al.*, 2017)
	Firm size	FSIZE	Log of total assets	(Al-matari *et al.*, 2017; Chaudhry *et al.*, 2020)

Source: Derived from surveyed literature by the researcher

3.3 Specification of the model and econometric techniques

The study used panel data from 74 companies over a six-year period from 2014 to 2019, totalling 444-year observations. Multiple studies have shown that using panel data for analysis has numerous advantages. For example, Hsiao (2003) demonstrated that using absolute time series or absolute cross-sectional data is a more efficient technique of creating econometric estimates. It also allows for precise management of individual variation and collinearity (Kyereboah-Coleman and Biekpe, 2007). Based on the Hausman test, the current study applied the fixed and random effects models to determine the influence of audit committee characteristics and external audit quality on the performance of top non-financial listed firms in India. The following regression models were created to accomplish the study's objectives:

$$ROA_{it} = \mu + \beta_1 \ ACC_{it} + \beta_2 \ EAQ_{it} + \beta_3 \ LEV_{it} + \beta_4 \ FSIZE_{it} + \varepsilon_{it} \qquad \text{Model (1)}$$

$$ROE_{it} = \mu + \beta_1 \ ACC_{it} + \beta_2 \ EAQ_{it} + \beta_3 \ LEV_{it} + \beta_4 \ FSIZE_{it} + \varepsilon_{it} \qquad \text{Model (2)}$$

$$TQ_{it} = \mu + \beta_1 \ ACC_{it} + \beta_2 \ EAQ_{it} + \beta_3 \ LEV_{it} + \beta_4 \ FSIZE_{it} + \varepsilon_{it} \qquad \text{Model (3)}$$

where μ is the intercept, ε is the error term of the model, i and t correspond to firm and year, respectively, ROA is return on assets, ROE is return on equity, TQ is Tobin's Q, ACC refers to audit committee characteristics, EAQ denotes external audit quality, LEV represents leverage and FSIZE stands for firm size.

4. Diagnostic tests

4.1 Validity and reliability of audit committee and external audit quality checklist

The reliability and validity of content analysis approaches was carefully assessed and verified by two independent researchers. Subsequently, a highly experienced academic was consulted to identify and eliminate any potential ambiguity. The final disclosure checklist included 20 items. The checklist was assessed for reliability by running the Cronbach's alpha test. The result of the test was greater than 0.8, which indicated that the data is significantly acceptable.

4.2 Normality and linearity tests

Parametric tests are run if the error terms are normally distributed (Ayyangar and Park, 2007). The normality of each model used in the study was tested using skewness and kurtosis. For normality to be present, the kurtosis value should not exceed +8, while skewness should be less than +3 (Kline, 1998). The statistics for every year showed that there were no kurtosis or skewness values higher than +8 or +3, respectively. Hence, the data was deemed to be normal for the regression analysis. As for linearity, this was checked by the P-P-Plots of the residuals for the ROA model, ROE model and TQ model. The P-P-Plots, which plot two cumulative distribution functions against each other, show how closely two data sets agree (Figure 3).

4.3 Heteroscedasticity, autocorrelation and multicollinearity tests

The Breusch–Pagan test was run for testing the heteroscedasticity of all models per the guidance from Gujarati and Porter (2012). The results of the Breusch–Pagan test are shown in Table 3. From the result, the probability value is greater than 0.05 in the model, which indicates that there is no heteroscedasticity. In addition, the data for each model was subjected to the Durbin–Watson (DW) test for autocorrelation. Table 3 presents the DW test results for the models. The ranges of the models were determined to be between 1.20 and

1.80. Thus, there was no autocorrelation problem among the sampled data. The variance inflation factor was computed for all variables and each model to test for multicollinearity. As also shown in Table 3, the means of the data are less than 10, which indicates that there are no multicollinearity problems (Gujarati and Sangeetha, 2007; Al-ahdal *et al.*, 2021).

4.4 Heterogeneity and homogeneity test

The Redundant Fixed Effect Test is used for testing heterogeneity. If (Prob.$<$ 0.05) for cross-section F and Period F or one of them separately, then the result means that there is an individual effects issue either in the cross-sections or in the time period. In such a case, the fixed effect models are suitable for running the analysis over pooled ordinary least squares (OLS). The pooled ordinary least squares (OLS) is suitable when the (Prob.$>$ 0.05) for both cross-section F and Period F. Table 4 shows that there is an individual effects in the cross-sections as the (Prob. $<$ 0.05) for cross-section F. Therefore, a fixed effect model was used for analysing the data. The results indicate that all the models were two-way variable intercept models.

5. Results and discussion

5.1 Descriptive statistics

Descriptive analysis is used to create a basic and clear image of the data by providing brief information about the sample target (Genser *et al.*, 2007). The descriptive statistics for the variables in the data set are presented in form of mean, standard deviation, minimum and maximum values. Table 5 shows the ROA, ROE and TQ for all 74 selected non-financial firms. The means of financial performance, as represented by ROA, ROE and TQ are 9.28, 19.28 and 2.49, respectively. The medians of ROA, ROE and TQ are 8.96, 18.06 and 2.17, respectively. The maximum performance values are 21.91, 57.33 and 7.84, while the

Figure 3 Results of P-P plot

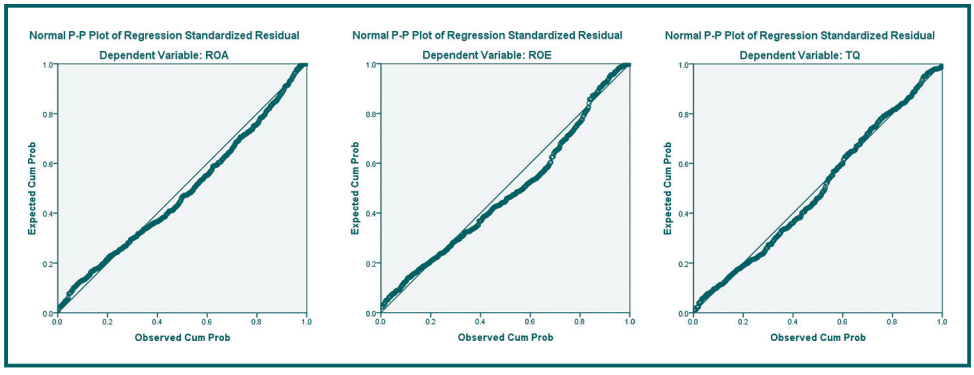


Table 3 Results for heteroscedasticity, autocorrelation and multicollinearity tests

Models	*Breusch–Pagan–Godfrey test $\chi 2$[p performance]*	*Durbin–Watson test*	*Variance inflation factor* *Variables*	*VIF*
Model 1 (ROA)	0.2219	1.60	ACC	1.470
Model 2 (ROE)	0.0788	1.26	EAQ	2.503
Model 3 (TQ)	0.3013	1.78	LEV	2.813
			FSIZE	1.258

minimum performance values are −1.44, −5.34 and 0.30 for ROA, ROE and TQ, respectively. These results are consistent with Bansal and Sharma (2016) and Varshney *et al.* (2012).

As regards the influence of audit committee characteristics (ACC) and external audit quality (EAQ), the descriptive analysis revealed that the mean of ACC and EAQ are 81.66 and 73.88, the maximum values are 100 and 100%, and the minimum values are 70 and 40, respectively. These results indicate that some of the Indian companies have implemented all of the items in the ACC checklist and EAQ checklist. However, other companies started from 40% and have gradually increased to 70%. In addition, the mean values of FSIZE and LEV are 5.03 and 2.28 with a minimum value of 4.52 and 0.02, and a maximum value of 5.50 and 55.92, respectively.

5.2 Correlation

The results of Pearson correlation analysis are presented in Table 6. From the table, it can be seen that the correlation of ACC with ROA is positive but not significant at a *p*-value of > 0.05, while it is negative but insignificant with ROE. Accordingly, there is no substantial correlation of ACC with ROA and ROE. The correlation of ACC with TQ was found to be significant but negative. On the other hand, EAQ show negative and insignificant correlations at a *p*-value of > 0.05 with ROA, ROE and TQ. Therefore, ACC has a positive relationship with ROA and ROE, while EAQ has a negative association between and financial performance. The correlation outcomes for the control variable FSIZE with ROA and ROE is significant. In contrast, this relation is insignificant with TQ. The analysis also showed that there is a significant negative correlation between LEV and ROA, but it is insignificant with ROE and TQ.

5.3 Analysis and discussion

5.3.1 Main results. A regression model is an effective technique for determining whether an independent variable has a substantial effect on the dependent variable. Additionally, it reflects the magnitude of the dependent variable's change in relation to the independent variable. This study observed all the assumptions of regression analysis. The study therefore progressed to analyse the relationship between the financial performance measures ROA, ROE and Tobin's Q as the dependent variables and the independent

Table 4 Redundant fixed effect test

	Test cross-section fixed effects		*Test period fixed effects*	
Model	*Effects test*	*Prob.*	*Effects test*	*Prob.*
ROA	Cross-section F	0.000	Period F	0.9265
	Cross-section Chi-square	0.000	Period Chi-square	0.8748
ROE	Cross-section F	0.003	Period F	0.7095
	Cross-section Chi-square	0.000	Period Chi-square	0.5708
TQ	Cross-section F	0.004	Period F	0.6299
	Cross-section Chi-square	0.000	Period Chi-square	0.4754

Table 5 Descriptive statistics

Summarizes features	*ROA*	*ROE*	*TQ*	*ACC*	*EAQ*	*FSIZE*	*LEV*
Mean	9.28	19.28	2.49	81.66	73.88	5.03	2.28
Median	8.96	18.06	2.17	80	70	5.08	0.56
Maximum	21.91	57.33	7.84	100	100	5.50	55.92
Minimum	−1.44	−5.34	0.30	70	40	4.52	0.02
Std. Dev.	5.10	12.31	1.77	8.45	16.60	0.20	6.096

Table 6 Pearson correlation

Variables	*ROA*	*ROE*	*TQ*	*ACC*	*EAQ*	*FSIZE*	*LEV*
ROA	1						
ROE	0.55**	1.00					
TQ	0.27	0.35	1.00				
ACC	0.16	0.27	−0.09*	1.00			
EAQ	−0.56	−0.19	−0.22	−0.11**	1.00		
FSIZE	−0.41**	−0.64**	−0.34	−0.53	0.37**	1.00	
LEV	−0.33**	−0.41	−0.08	−0.30	−0.01	0.17	1.00

Notes: **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)

variables ACC and EAQ, while LEV and FSIZE were used as the control variables. The results of Hausman specification tests indicated that the random effect model was preferable to the fixed effect model for ROA, ROE and TQ. Therefore, the fixed effect model was not applied. A one-way random effects model procedure was deployed to generate the results.

Model (1) in Table 7 indicates that there is lack of evidence to show that ACC improve performance as measured by ROA (p-value > 0.05). *This leads the study to accept H1a*. This result contradicts Khan *et al.* (2017) and Musallam (2020) who reported that ACC significantly impacts ROA. These findings are consistent with Al-Matari *et al.* (2014) and Bansal and Sharma (2016) who showed that ACC has an insignificant impact on ROA. The results imply that there is lack of evidence to show that EAQ improves performance in terms of ROA. This result is in agreement with Sayyar *et al.* (2015) who found that EAQ insignificantly impacts firm performance as measured by ROA. *Accordingly, H2a is accepted*. The results also revealed that FSIZE and LEV have a substantial inverse connection with ROA. This result supports Aggarwal *et al.* (2010). The R^2 and adjusted R^2 are fairly good. The R^2 is 0.61, which indicate that 0.61 of the variation in ROA is explained by ACC, EAQ, FSIZE and LEV. Other variables which are not included in this analysis explain the rest of the variation in the ROA.

As regards ROE (Model 2), the results in Table 7 indicate that there is lack of evidence to show that ACC improve performance. This outcome agrees with Bansal and Sharma (2016). Thus, *this leads to the acceptance of H1b*. The results also indicate that EAQ has a positive but insignificant impact on ROE. This result is consistent with Kallamu and Saat (2015) who revealed firm profitability is positively impacted by the expertise and attributes of EAQ. Therefore, *this leads to the acceptance of H2b*. Further, the results indicate that FSIZE and LEV have statistically significant impact on ROE at the level of 5% (p-value < 0.05). However, this effect is negative. The R^2 and adjusted R^2 are fairly good. The R^2 is 0.53, which imply that 0.53 of the variation in ROE is explained by ACC, EAQ, FSIZE and LEV, Other variables which are not included in this analysis explain the rest of the variation in the ROE.

In respect of TQ, the results in Model (3) in Table 7 indicate that there is lack of evidence to show that ACC improve performance. This result supports Borlea *et al.* (2017) who found insignificant association for any of the characteristics of the audit committee with the financial performance of the firm. *Accordingly, H1c is accepted.* The results also show that EAQ positively and significantly affects the TQ of top Indian non-financial listed firms. This is in line with the literature (Al-Malkawi and Pillai, 2018; Aljifri and Moustafa, 2007). *Therefore, H2c is rejected*. As for FSIZE, this variable has an insignificant impact on TQ. However, LEV has a positive significant impact on TQ. This imply that when LEV increases, the TQ of top Indian non-financial listed firms increases. The adjusted R^2 is 0.37 which imply that 0.37 of the variation in TQ is explained by ACC, EAQ, FSIZE and LEV. Other variables which are not included in this study explains the rest of the variation in the TQ.

Table 7 Regression results estimation – main models

Variable	*ROA Model (1)*	*ROE Model (2)*	*TQ Model (3)*
C	92.53***	95.94***	25.37***
	14.19	51.83	7.95
	6.518	4.879	3.188
ACC	−0.070	9.916	−0.406
	0.042	1.011	0.187
	−1.665	−3.019	−2.171
EAQ	0.035	1.109	0.586**
	0.049	1.368	0.425
	0.714	0.810	1.378
FSIZE	−16.18**	-40.378**	−5.292
	2.78	9.378	1.820
	−5.81	-4.305	−2.907
LEV	−0.07***	−0.362**	−0.010**
	0.030	0.093	0.010
	−2.30	−3.874	-1.049
R^2	0.613	0.536	0.377
Adjusted *R*-squared	0.551	0.462	0.296
F-statistic	9.916	7.235	4.694
Prob(F-statistic)	0.000	0.005	0.000
Hausman Test	0.91	0.33	0.99

Note: ***, ** and * indicates the impact at 0.01, 0.05 and 0.10 significance levels, respectively

5.3.2 Robustness analysis results.

5.3.2.1 Dynamic robustness analysis. Estimation of longitudinal panel data models may lead either to robust results with regression analysis or misleading results in some other cases. Achen (2000) indicates that in some cases in the social sciences, substantive variables may take a wrong sign and a high statistically significant coefficient may result. Further, some substantive coefficients may lead to implausibly inaccurate and misleading inferences. Accordingly, this study conducted a dynamic robustness test with lagged values for the dependent variables to confirm the results of Models (1), (2) and (3) discussed above. This test is also helpful for understanding whether what happened at time *t* also happened at time t-1. For this purpose, the following dynamic robustness models with lagged dependent variables were used:

$$\mathrm{ROA}_{it} = \mu + \beta_1 \; ROA - 1_{it} + \beta_2 \; \mathrm{ACC}_{it} + \beta_3 \; \mathrm{EAQ}_{it} + \beta_4 \; \mathrm{LEV}_{it} + \beta_5 \; \mathrm{FSIZE}_{it} + \varepsilon_{it} \quad \text{Model (4)}$$

$$\mathrm{ROE}_{it} = \mu + \beta_1 \; ROE - 1_{it} + \beta_2 \; \mathrm{ACC}_{it} + \beta_3 \; \mathrm{EAQ}_{it} + \beta_4 \; \mathrm{LEV}_{it} + \beta_5 \; \mathrm{FSIZE}_{it} + \varepsilon_{it} \quad \text{Model (5)}$$

$$\mathrm{TQ}_{it} = \mu + \beta_1 \; TQ - 1_{it} + \beta_2 \; \mathrm{ACC}_{it} + \beta_3 \; \mathrm{EAQ}_{it} + \beta_4 \; \mathrm{LEV}_{it} + \beta_5 \; \mathrm{FSIZE}_{it} + \varepsilon_{it} \quad \text{Model (6)}$$

Table 8 provides an analysis of the regression analysis with lagged dependent variables. The results provide a robust check of the analysis outcomes provided in Table 7. The results in Table 8 indicate that the models are fit with a significance value at 1% (p-value = $0.000 < 0.01$). The results demonstrate the consistent impact of the variables as compared to the earlier models, except for the strength of the impact of EAQ, FSIZE and LEV which demonstrate higher impact. Further, FSIZE exhibits a statistically significant effect at the level of 1% in the case of TQ, which was insignificant in the earlier model. This could be attributed to autocorrelation issues indicated by the DW values, which is discussed in the next subsection.

5.3.2.2 Generalised method of moments estimation. From Table 8, the DW values are less than 1, which indicates that there are some autocorrelation problems. Further, according to Gafoor *et al.* (2018), endogeneity issues are one of the research concerns that need to be considered when analysing board characteristics. Therefore, the current study used the generalised method of moments (GMM) technique as a robust test to identify and tackle any endogeneity, autocorrelation or heteroscedastic issues in the preceding steps of the analysis in line with the literature (Dietrich and Wanzenried, 2014; Rashid and Jabeen, 2016; Saona, 2016; Bougatef, 2017; Chowdhury and Rasid, 2017). Gupta and Mahakud (2020), Saona (2016) and Liang *et al.* (2013) justify the use of GMM estimation for tackling heterogeneity and endogeneity issues. Thus, the following GMM models were designed following Saona (2016):

$$\text{Profitability}_{it} = \beta_0 + \beta_1 \text{Profitability}_{it-1} + \sum_{j=1}^{5} \delta_j X_{it} + \eta_i + \mu_t + \varepsilon_{it} \tag{1}$$

where X_{it} indicates the vector of the related party transactions, Y_t is the vector that signifies board characteristics and η_i, μ_t and εit indicate the individual effect, the temporal effect and the stochastic error, respectively.

Accordingly,

$$\sum_{j=1}^{5} \delta_j X_{it} = \delta_1 ACC_{it} + \delta_2 EAQ + \delta_3 FIZE + \delta_4 LEV \tag{1a}$$

$$Profitability(Pr)_{it} = \beta_0 + \beta_1 \text{Pr}_{it-1} + \delta_1 ACC_{it} + \delta_2 EAQ + \delta_3 FIZE + \delta_4 LEV + \eta_i + \mu_t + \varepsilon_{it} \tag{1b}$$

Table 8 Regression results with lagged DVs

Variable	*Model (4) ROA-1*	*Model (5) ROE-1*	*Model (6) TQ-1*
C	41.849***	72.098***	6.973***
	3.980	7.452	1.628
	10.514	9.674	4.285
ROA(−1)	0.375***	0.413***	0.537***
	0.045	0.045	0.047
	8.340	9.263	11.347
ACC	0.074	−0.308	−0.015
	0.168	0.323	0.070
	0.442	−0.953	−0.208*
EAQ	0.273	−0.257	0.070
	0.275	0.532	0.116
	0.994	−0.482	0.601
FSIZE	−6.372***	−8.999***	−0.869***
	0.653	1.186	0.260
	−9.763	−7.586	−3.337
LEV	−0.015**	−0.069**	0.015*
	0.032	0.061	0.013
	−0.474	−1.126	1.111
R^2	0.352	0.319	0.295
Adjusted R^2	0.343	0.309	0.285
F-statistic	39.568	34.076	30.468
Prob(F-statistic)	0.000	0.000	0.000
Durbin–Watson stat	0.791	0.740	0.741

Note: ***, ** and * indicates the impact at 0.01, 0.05 and 0.10 significance levels, respectively

Based on equation (1), the following research models were developed to estimate the results:

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \delta_1 ACC_{it} + \delta_2 EAQ + \delta_3 FIZE + \delta_4 LEV + \eta_i + \mu_t + \varepsilon_{it} \quad \text{Model (7)}$$

$$ROE_{it} = \beta_0 + \beta_1 ROE_{it-1} + \delta_1 ACC_{it} + \delta_2 EAQ + \delta_3 FIZE + \delta_4 LEV + \eta_i + \mu_t + \varepsilon_{it} \quad \text{Model (8)}$$

$$TQ_{it} = \beta_0 + \beta_1 TQ_{it-1} + \delta_1 ACC_{it} + \delta_2 EAQ + \delta_3 FIZE + \delta_4 LEV + \eta_i + \mu_t + \varepsilon_{it} \quad \text{Model (9)}$$

The GMM estimation results presented in Table 9 show that the lagged dependent variables in all three cases are significant at the level of 1% (p-value < 0.01), which indicates that GMM estimation has a good fit. Further, the results show that the values of Arellano and Bond (1991) (AR2) are greater than 0.05. As a rule of thumb, AR2 should have a value greater than 0.05 (p-value > 0.05) to indicate the proper fit of the GMM model. This has been observed in our results. The results also show that ACC has a considerable favourable effect on company performance. significant positive impact on firm performance. This impact is significant at the level of 5% for ROA (p-value < 0.05). However, the results show that EAQ has a significant positive effect at the level of 10% for TQ (p-value < 0.10). This indicates that the ACC variable is more related to accounting-based measures of financial performance, whereas EAQ is more related to market-based measures of financial performance. Additionally, the results indicate that FSIZE has a negative and substantial effect on firm performance (ROA, ROE and TQ) at the 1% level (p-value 0.01). In the same setting, LEV has a substantial negative influence on ROA at 5% and on ROE and TQ at 10% (p-value 0.10).

6. Conclusion

This study aimed to discover the impact of ACC and EAQ on the firm performance of companies listed in the Nifty 100 Index. This research relied on secondary data collected from different web sources and company annual reports covering the period from 2014 to 2019. To fulfil the study objectives, a quantitative analysis of 444 firm-year observations was performed to determine the impact of ACC and EAQ on the ROA, ROE and TQ of selected firms. Random effect models were used in the analysis in which control variables and independent variables were added into the model sequentially. The findings of the study revealed that ACC have an insignificant positive influence on ROE and that EAQ has a significant positive effect on the TQ of top Indian non-financial listed firms. These results may be attributed to the convergence of accounting practices in India with the International Financial Reporting Standards. In this context, India has a strong regulatory system and the accounting and auditing rules are more focused on regulatory and tax issues than principle-based issues. Hence, firms may appoint a local auditor that has expertise in tax and regulatory issues rather than hire a Big-4 auditor (Deloitte, PricewaterhouseCoopers, Ernst & Young and KPMG) that charges higher audit fees.

Moreover, the insignificant role of EAQ can be interpreted in light of signalling theory. Prior research has found that weaker performing companies are more likely to demand high-audit quality, and therefore tend to appoint a Big-4 auditor as a signal to investors. However, as the sample for this study was drawn from the Nifty 100, the average and the median of financial performance for the sampled firms was positive and high (means: ROA: 9.28, ROE: 19.28, TQ: 2.49; medians: ROA: 8.96, ROE: 18.06, TQ: 2.17), which indicates an insignificant association between EAQ by the Big-4 and the financial performance of these firms. The lack of evidence for an effect of ACC and EAQ on performance could be

Table 9 GMM estimation

Variable	*Model (7) ROA*	*Model (8) ROE*	*Model (9) TQ*
ROA(−1)	0.610***	0.486***	0.374***
	0.183	0.171	0.111
	3.338	2.836	3.365
ACC	0.708**	0.606	0.140
	0.310	0.577	0.096
	2.286	1.050	1.463
EAQ	0.544	0.802	0.738*
	0.387	0.828	0.976
	1.405	0.969	0.756
FSIZE	−6.917***	−11.195***	−0.474***
	1.840	3.155	0.157
	−3.760	−3.548	3.020
LEV	−0.071**	−0.074*	−0.031*
	0.041	0.047	0.017
	−1.715	−1.584	−1.817
AR (1)	0.004	0.010	0.028
AR (2)	0.878	0.579	0.371

Note: ***, ** and * indicates the impact at 0.01, 0.05 and 0.10 significance levels, respectively

attributed to the checklist developed by the current study. The checklist is comprehensive and contains 20 different items. For example, the index for EAQ includes items about joint audit, auditor type, audit tenure, appointment of an external auditor and the coordination of the external auditor with both the audit committee and internal auditor. Some of these items are not disclosed in the annual reports. However, FSIZE and LEV have a significant impact on the financial performance of the firms sampled in this study as measured by ROA, ROE and TQ. These findings are consistent with the literature on the impact of ACC and EAQ on the financial performance of the firm.

This study makes a significant contribution to the literature because its empirical results and evidence provide valuable additional knowledge on audit committee characteristics and external audit. Although a number of past studies have investigated the impact of different characteristics of the audit committee on the financial performance of firms, the expertise of the audit committee has largely remained unexplored with relation to India. Indeed, to the best of the researchers' knowledge, no studies have conducted to investigate the effects of ACC and EAQ on the financial performance of firms in India after the implementation of the new Companies Act 2013. Hence, this study fills this gap in the literature by examining the overall characteristics of the audit committee and EAQ and their impact on firm performance. In practical terms, this research is beneficial for both financial practitioners and policymakers because it offers useful suggestions about the types of external audit that can contribute to the effectiveness and performance of audit committees and firms. This study's outcomes will also enable strategic policy formulation and the overall betterment of firms and their respective sectors.

Despite its significant contributions to both theory and practice, the contradicting results in the model developed for this study imply that there is a need to perform further research to clarify some issues. This may in part be due to some study limitations. The first limitation of this study is that it only used ROA, ROE and TQ to measure corporate performance. Additionally, other firm performance and liquidity measures, such as market value added and current ratios, might have been used in this study. Second, this study focused on the role of the audit committee and its functions, which changed under the new Companies Act, 2013. Therefore, future research could explore other changes due to this legislation in respect of, for instance, the role of independent directors, their functions and their impact on firm performance. Lastly, the study was limited by its small sample size. This study only

focused exclusively on Nifty 100 firms to assess the Indian market. Therefore, future research may wish to use samples that include all companies listed on the NSE.

References

Achen, C.H. (2000), "Why lagged dependent variables can suppress the explanatory power of other independent variables. In annual meeting of the political methodology section of the American political science association", *UCLA*, Vol. 20 No. 22, pp. 1-42.

Aggarwal, R., Erel, I., Stulz, R. and Williamson, R. (2010), "Differences in governance practices between U.S. and foreign firms: measurement, causes, and consequences", *Review of Financial Studies*, Vol. 23 No. 3, pp. 3131-3169, doi: 10.1093/rfs/hhn107.ra.

Akhtaruddin, M. and Haron, H. (2010), "Board ownership, audit committees' effectiveness and corporate voluntary disclosures", *Asian Review of Accounting*, Vol. 18 No. 1, pp. 68-82, doi: 10.1108/13217341011046015.

Al-Ahdal, W.M., Almaqtari, F.A., Tabash, M.I., Hashed, A.A. and Yahya, A.T. (2021), "Corporate governance practices and firm performance in emerging markets: empirical insights from India and Gulf countries", *Vision: The Journal of Business Perspective*, pp. 1-13, doi: 10.1177/09722629211025778.

Al-Ahdal, W.M., Alsamhi, M.H., Tabash, M.I. and Farhan, N.H.S. (2020), "The impact of corporate governance on financial performance of Indian and GCC listed firms: an empirical investigation", *Research in International Business and Finance*, Vol. 51, pp. 1-13, doi: 10.1016/j.ribaf.2019.101083.

Al-Homaidi, E., Al-Matari, E., Tabash, M. and Khaled, A. and Senan, N. (2021), "The influence of corporate governance characteristics on profitability of Indian firms: an empirical investigation of firms listed on Bombay Stock Exchange", *Investment Management and Financial Innovations*, Vol. 18 No. 1, pp. 114-125, doi: 10.21511/imfi.18(1).2021.10.

Aljifri, K. and Moustafa, M. (2007), "The impact of corporate governance mechanisms on the performance of UAE firms: an empirical analysis", *Journal of Economic and Administrative Sciences*, Vol. 23 No. 2, pp. 71-93, doi: 10.1108/102641162007000088.

Al-Malkawi, H.A.N. and Pillai, R. (2018), "Analyzing financial performance by integrating conventional governance mechanisms into the GCC Islamic banking framework", *Managerial Finance*, Vol. 44 No. 5, pp. 604-623, doi: 10.1108/MF-05-2017-0200.

Al-Mamun, A., Yasser, Q.R. and Rahman, M.A. (2014), "Relationship between audit committee characteristics, external auditors and economic value added (EVA) of public listed firms in Malaysia", *Corporate Ownership and Control*, Vol. 12 No. 1, pp. 899-910, doi: 10.22495/cocv12i1c9p12.

Almaqoushi, W. and Powell, R. (2020), "Audit committee quality indices, reporting quality, and firm value", *Journal of Business Finance & Accounting*, Vol. 48 Nos 1/2, pp. 1-66, doi: 10.1111/jbfa.124788.

Almaqtari, F.A., Hashed, A.A., Shamim, M. and Al-Ahdal, W.M. (2021), "Impact of corporate governance mechanisms on financial reporting quality: a study of Indian GAAP and Indian accounting standards", *Problems and Perspectives in Management*, Vol. 18 No. 4, pp. 1-14.

Al-Matari, E.M. (2019), "Do characteristics of the board of directors and top executives have an effect on corporate performance among the financial sector? Evidence using stock", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 1, pp. 16-43, doi: 10.1108/CG-11-2018-0358.

Al-Matari, E.M., Al-Swidi, A.K., Hanim, F. and Fadzil, B. (2014), "Audit committee characteristics and executive committee characteristics and firm performance in Oman : empirical study", *Asian Social Science*, Vol. 10 No. 12, pp. 98-113, doi: 10.5539/ass.v10n12p98.

Al-Matari, E.M., Al-Swidi, A.K., Hanim, F. and Fadzil, B. (2017), "The effect of board of directors characteristics, audit committee characteristics and executive committee characteristics on firm performance in Oman : an empirical study", *Asian Social Science*, Vol. 10 No. 11, pp. 149-171, doi: 10.5539/ass.v10n11p1499.

Alqatamin, R.M. (2018), "Audit committee effectiveness and company performance: evidence from Jordan", *Accounting and Finance Research*, Vol. 7 No. 2, pp. 48-60, doi: 10.5430/afr.v7n2p48.

Arellano, M. and Bond, S. (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *The Review of Economic Studies*, Vol. 58 No. 2, pp. 277-297, available at: https://doi.org/10.2307/2297968

Aslam, E. and Haron, R. (2020), "Corporate governance and banking performance: the mediating role of intellectual capital among OIC countries", *Corporate Governance: The International Journal of Business in Society*, Vol. 21 No. 1, pp. 111-136, doi: 10.1108/CG-08-2020-0312.

Ayyangar, L. and Park, M. (2007), "Skewness, multicollinearity, heteroskedasticity – you name it, cost data have it! Solutions to violations of assumptions of ordinary least squares regression models using SAS", Paper, pp. 131-2007, SAS Global Forum 2007, available at: www.lexjansen.com/wuss/2006/posters/POS-Ayyangar.pdf

Bacha, S., Ajina, A. and Ben Saad, S. (2020), "CSR performance and the cost of debt: does audit quality matter?", *Corporate Governance: The International Journal of Business in Society*, Vol. 21 No. 1, pp. 137-158, doi: 10.1108/CG-11-2019-03355.

Bansal, N. and Sharma, A.K. (2016), "Audit committee, corporate governance and firm performance: empirical evidence from India", *International Journal of Economics and Finance*, Vol. 8 No. 3, p. 103, doi: 10.5539/ijef.v8n3p1033.

Borlea, S.N., Achim, M.V. and Mare, C. (2017), "Board characteristics and firm performances in emerging economies. Lessons from Romania", *Economic research-Ekonomska Istraživanja*, Vol. 30 No. 1, pp. 55-75, doi: 10.1080/1331677X.2017.1291359.

Bougatef, K. (2017), "Determinants of bank profitability in Tunisia: does corruption matter?", *Journal of Money Laundering Control*, Vol. 20 No. 1, pp. 70-78, doi: 10.1108/JMLC-10-2015-0044.

Chahal, H. and Kumari, A. (2013), "Examining talent management using CG as proxy measure: a case study of State Bank of India", *Corporate Governance: The International Journal of Business in Society*, Vol. 13 No. 2, pp. 198-207, doi: 10.1108/14720701311316670.

Chaudhry, N.I., Roomi, M.A. and Aftab, I. (2020), "Impact of expertise of audit committee chair and nomination committee chair on financial performance of firm", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 4, pp. 621-638, doi: 10.1108/CG-01-2020-0017.

Cheng, B., Ioannou, I. and Serafeim, G. (2014), "Corporate social responsibility and access to finance", *Strategic Management Journal*, Vol. 35 No. 1, pp. 1-23, doi: 10.1002/smj.21311.

Chhaochharia, V. and Laeven, L. (2009), "Corporate governance norms and practices", *Journal of Financial Intermediation*, Vol. 18 No. 3, pp. 405-431, doi: 10.1016/j.jfi.2008.10.0011.

Chiu, J., Chung, H. and Hung, S.C. (2021), "Voluntary adoption of audit committees, ownership structure and firm performance: evidence from Taiwan", *Emerging Markets Finance and Trade*, Vol. 57 No. 5, pp. 1-29, doi: 10.1080/1540496X.2019.1635449.

Chowdhury, M.A.F. and Rasid, M.E.S.M. (2017), "Determinants of performance of Islamic banks in GCC countries: dynamic GMM approach", *Advances in Islamic Finance, Marketing, and Management*, pp. 49-80, doi: 10.1108/978-1-78635-899-820161005.

Dakhlallh, M.M., Rashid, N., Wan Abdullah, W.A. and Al Shehab, H.J. (2020), "Audit committee and Tobin's Q as a measure of firm performance among Jordanian companies", *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 12 No. 1, pp. 28-41, doi: 10.5373/JARDCS/V12I1/202010055.

Dietrich, A. and Wanzenried, G. (2014), "The determinants of commercial banking profitability in low, middle, and high-income countries", *The Quarterly Review of Economics and Finance*, Vol. 54 No. 3, pp. 337-354, doi: 10.1016/j.qref.2014.03.0011.

Enekwe, C., Nwoha, C. and Udeh, S.N. (2020), "Effect of audit quality on financial performance of listed manufacturing firms in Nigeria (2006-2016)", *Advance Journal of Management, Accounting and Finance*, Vol. 5 No. 1, pp. 1-12.

Gafoor, C.A., Mariappan, V. and Thyagarajan, S. (2018), "Board characteristics and bank performance in India", *IIMB Management Review*, Vol. 30 No. 2, pp. 160-167, doi: 10.1016/j.iimb.2018.01.007.

Genser, B., Cooper, P.J., Yazdanbakhsh, M., Barreto, M.L. and Rodrigues, L.C. (2007), "A guide to modern statistical analysis of immunological data", *BMC Immunology*, Vol. 8 No. 1, pp. 1-15.

Gujarati, N.D. and Porter, C.P. (2012), *Basic Econometrics*, 5th ed., McGraw Hill.

Gujarati, D.N. and Sangeetha, G. (2007), *Basic Econometrics*, Tata McGraw Hill Publishing Company Limited, New Delhi, pp. 451-452.

Gupta, N. and Mahakud, J. (2020), "CEO characteristics and bank performance: evidence from India", *Managerial Auditing Journal*, Vol. 35 No. 8, pp. 1057-1093, doi: 10.1108/MAJ-03-2019-2224.

Haniffa, R. and Hudaib, M. (2006), "Corporate governance structure and performance of Malaysian listed companies", *Journal of Business Finance and Accounting*, Vol. 33 Nos 7/8, pp. 1034-1062, doi: 10.1111/j.1468-5957.2006.00594.

Houqe, M.N., Ahmed, K. and Van Zijl, T. (2017), "Audit quality, earnings management, and cost of equity capital: evidence from India", *International Journal of Auditing*, Vol. 21 No. 2, pp. 177-189, doi: 10.1111/ijau.12087.

Hsiao, C. (2003), *Analysis of Panel Data*, Cambridge University Press, Cambridge.

Ika, S.R. and Ghazali, N.A.M. (2012), "Audit committee effectiveness and timeliness of reporting : Indonesian evidence", *Managerial Auditing Journal*, Vol. 27 No. 4, pp. 403-424, doi: 10.1108/02686901211217996.

Ittonen, K., Miettinen, J. and Vähämaa, S. (2010), "Does female representation on audit committees affect audit fees?", *Quarterly Journal of Finance and Accounting*, Vol. 49 No. 3, pp. 113-139.

Kallamu, B.S. and Saat, N.A.M. (2015), "Audit committee attributes and firm performance: evidence from Malaysian finance companies", *Asian Review of Accounting*, Vol. 23 No. 3, pp. 206-231, doi: 10.1108/ARA-11-2013-00766.

Kaura, P., Dharwal, M., Kaur, H. and Kaur, P. (2019), "Impact of corporate governance on financial performance of information technology companies", *International Journal of Recent Technology and Engineering*, Vol. 8 No. 3, pp. 7460-7464, doi: 10.35940/ijrte.C5603.098319.

Khan, A.W. and Subhan, Q.A. (2019), "Impact of board diversity and audit on firm performance", *Cogent Business & Management*, Vol. 6 No. 1, pp. 1-16, doi: 10.1080/23311975.2019.1611719.

Khan, A., Tanveer, S. and Malik, U. (2017), "An empirical analysis of corporate governance and firm value: evidence from KSE-100 index", *Accounting*, Vol. 3 No. 2, pp. 119-130, doi: 10.5267/j.ac.2016.7.003.

Kline, R.B. (1998), *Principles and Practices of Structural Equation Modeling*, Guilford, New York, NY.

KPMG (2014), "Companies act 2013 raising the bar on governance", KPMG, available at: www.kpmg.com/IN/en/Documents/Companies_Act_2013_Raising_the_bar_on_Governance.pdf

Kyereboah-Coleman, A. and Biekpe, N. (2007), "On the determinants of board size and its composition: additional evidence from Ghana", *Journal of Accounting & Organizational Change*, Vol. 3 No. 1, pp. 68-77, doi: 10.1108/18325910710732867.

Liang, Q., Xu, P. and Jiraporn, P. (2013), "Board characteristics and Chinese bank performance", *Journal of Banking & Finance*, Vol. 37 No. 8, pp. 2953-2968, doi: 10.1016/j.jbankfin.2013.04.018.

Martinez, A.L. and Moraes, A. D J. (2014), "Association between independent auditor fees and firm value : a study of Brazilian public companies", *Journal of Modern Accounting and Auditing*, Vol. 10 No. 4, pp. 442-450.

Musallam, S.R.M. (2020), "Effects of board characteristics, audit committee and risk management on corporate performance: evidence from Palestinian listed companies", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 13 No. 4, pp. 691-706, doi: 10.1108/IMEFM-12-2017-0347.

Mutasher, A.T. (2016), "Impact of board characteristics, audit committee characteristics and external auditor on financial reporting quality", Doctoral dissertation, Universiti Utara Malaysia.

Narayanaswamy, R. and Raghunandan, K. (2019), "The effect of mandatory audit firm rotation on audit quality, audit fees and audit market concentration: evidence from India", IIM Bangalore Research Paper, pp. 1-31, available at SSRN : https://ssrn.com/abstract=3360256 or http://dx.doi.org/10.2139/ssrn.3360256

Neely, A. (1999), "The performance measurement revolution : why now and what next?", *International Journal of Operations & Production Management*, Vol. 19 No. 2, pp. 205-228, doi: 10.1108/01443579910247437.

Oussii, A.A. and Klibi, M.F. (2020), "The impact of audit committee financial expertise on de facto use of IFRS: does external auditor's size matter?", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 7, pp. 1243-1263, doi: 10.1108/CG-12-2019-0390.

Peni, E. and Vähämaa, S. (2012), "Did good corporate governance improve bank performance during the financial crisis?", *Journal of Financial Services Research*, Vol. 41 No. 1-2, pp. 19-35, doi: 10.1007/s10693-011-0108-9.

Rahman, M.M., Meah, M.R. and Chaudhory, N.U. (2019), "The impact of audit characteristics on firm performance: an empirical study from an emerging economy", *The Journal of Asian Finance, Economics and Business*, Vol. 6 No. 1, pp. 59-69, doi: 10.13106/JAFEB.2019.VOL6.NO1.59.

Rashid, A. and Jabeen, S. (2016), "Analyzing performance determinants: conventional versus Islamic banks in Pakistan", *Borsa Istanbul Review*, Vol. 16 No. 2, pp. 92-107, doi: 10.1016/j.bir.2016.03.0022.

Safari Gerayli, M., Rezaei Pitenoei, Y. and Abdollahi, A. (2021), "Do audit committee characteristics improve financial reporting quality in emerging markets? Evidence from Iran", *Asian Review of Accounting*, Vol. 29 No. 2, pp. 251-267, doi: 10.1108/ARA-10-2020-0155.

Saona, P. (2016), "Intra-and extra-bank determinants of Latin American banks' profitability", *International Review of Economics & Finance*, Vol. 45, pp. 197-214, doi: 10.1016/j.iref.2016.06.004.

Sarpal, S. (2017), "Analyzing performance implications of selected audit committee characteristics: a study of Indian corporate sector", *Business Perspectives and Research*, Vol. 5 No. 2, pp. 137-150, available at: https://doi.org/10.1177/2278533717692915

Sayyar, H., Basiruddin, R., Rasid, S.Z. and Elhabib, M.A. (2015), "The impact of audit quality on firm performance: evidence from Malaysia", *Journal of Advanced Review on Scientific Research*, Vol. 10 No. 1, pp. 1-19.

Scarbrough, D.P., Rama, D.V. and Raghunandan, K. (1998), "Audit committee composition and interaction with internal auditing: Canadian evidence", *Accounting Horizons*, Vol. 12 No. 1, pp. 51-62.

Sehrawat, N.K., Kumar, A., Lohia, N., Bansal, S. and Agarwal, T. (2019), "Impact of corporate governance on earnings management: large sample evidence from India", *Asian Economic and Financial Review*, Vol. 9 No. 12, pp. 1335-1345, available at: https://ideas.repec.org/a/asi/aeafrj/2019p1335-1345

Shikha, N. and Mishra, R. (2019), "Corporate governance in India - battle of stakes", *International Journal of Corporate Governance*, Vol. 10 No. 1, pp. 20-41, doi: 10.1504/ijcg.2019.10019347.

Srivastava, M. (2009), "Good governance - concept, meaning and features: a detailed study", Social Science Research Network, pp. 1-23, available at SSRN: https://ssrn.com/abstract=1528449 or http://dx.doi.org/10.2139/ssrn.1528449

Stewart, J. and Munro, L. (2007), "The impact of audit committee existence and audit committee meeting frequency on the external audit: perceptions of Australian auditors", *International Journal of Auditing*, Vol. 11 No. 1, pp. 51-69, doi: 10.1111/j.1099-1123.2007.00356.

Tuan Ibrahim, T.A.F., Hashim, H.A. and Ariff, A.M. (2020), "Ethical values and bank performance: evidence from financial institutions in Malaysia", *Journal of Islamic Accounting and Business Research*, Vol. 11 No. 1, pp. 233-256, doi: 10.1108/JIABR-11-2016-0139.

Varshney, P. Kaul, V.K. and Vasal, V.K. (2012), "Corporate governance index and firm performance: empirical evidence from India", pp. 1-35, available at SSRN:https://ssrn.com/abstract=2103462 or http://dx.doi.org/10.2139/ssrn.2103462

Yameen, M., Farhan, N.H. and Tabash, M.I. (2019), "The impact of corporate governance practices on firm's performance: an empirical evidence from Indian tourism sector", *Journal of International Studies*, Vol. 12 No. 1, pp. 208-228, doi: 10.14254/2071- 8330.2019/12-1/14.

Appendix A

Appendix A GMM estimation		
Category 1: Audit	*Number*	*Item*
Committee Characteristics	1	The firm has constituted an audit committee
	2	The audit committee consists entirely of non-executive directors
	3	As a minimum, two-thirds of the members of the audit committee must be independent directors
	4	An independent director must chair the audit committee
	5	The audit committee must include one member who possesses knowledge, expertise and ample experience in the field of accounting
	6	As a minimum, the audit committee must have three members
	7	The chair of the audit committee must be present at the AGM
	8	The audit committee must have a written charter document or terms of reference
	9	The AC must meet two times or more within a 1-year period
	10	A minimum attendance of 75% is compulsory for all members at board meetings
Category 2: External Audit Quality	11	There must be full disclosure of material facts from an audit conducted by the external auditor
	12	There must be clear guidelines and policy regarding the relationship with the external auditor
	13	Does the company use any of the highly reputed international audit companies (Deloitte, PwC, KYMG, E&Y)?
	14	The firm should not be under active criminal investigation for corporate governance misconduct
	15	The selection of an external auditor must be done based on the recommendations of the audit committee during the AGM
	16	Periodic review meetings must be held between the internal auditor (audit committee) and the external auditor
	17	The appointment of external auditors must be transparent and follow due process
	18	There must be full disclosure of non-audit services and other relevant information performed by the audit company
	19	Presence of joint auditor belong to separate audit firms
	20	Audit partner is rotated every 5 years

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