



## Audit Committee, External Auditor, and Financial Reporting Quality in Indian Corporate Sector

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Submit: 07/11/2020 Accept: 28/05/2023

### ABSTRACT

This study empirically examines the association between corporate governance and financial reporting quality in Indian corporate sector. In this regard, corporate governance has been measured by characteristics of two mechanisms, namely audit committee and external auditors as external mechanism. Furthermore, accruals quality as attribute of earnings quality has been used as the proxy for financial reporting quality. This study uses 1250 firm-year observations from a sample of 250 firms drawn from top 500 Indian companies listed on National Stock Exchange (NSE) over a five-year period from 2008 to 2012. In order to test developed hypotheses, panel data regression with has been employed to determine the influence of corporate governance characteristics on financial reporting quality measured by earnings quality attributes. With regard to audit committee characteristics, this study provides some evidence that although audit committee size, and audit committee independence are found to be significantly related to financial reporting quality, audit committee meetings and audit committee accounting expertise have no significant relationship with financial reporting quality. Regarding external auditor, the findings demonstrate that contradictory to the expectation, audit fee is not significantly associated with financial reporting quality. The results for last hypothesis show that non-audit fee ratio has a negative and significant relationship with financial reporting quality. The results are also robust to additional test using year and industry as dummy variables.

**Keywords:** Audit Committee, External Auditor, Financial Reporting Quality, Earnings Quality, Accruals Quality



## 1. Introduction

This study focuses on two principal players of corporate governance, namely audit committee (Brickley & Zimmerman, 2010; Cohen, Krishnamoorthy, & Wright, 2004; Rezaee, 2004, 2007; Rezaee & Riley, 2010), as internal mechanisms and external auditors as external mechanism (Brickley & Zimmerman, 2010; Rezaee, 2004, 2007; Rezaee & Riley, 2010). These two groups of actors of corporate governance have a common purpose in ensuring financial reporting quality since it is perceived to have impact on financial reporting quality which in turn has significant influence on investors' confidence. This study empirically investigates how audit committee and external audit as internal and external mechanisms of corporate governance are associated with financial reporting quality as measured by quality attributes of reported earnings in Indian context.

The framework for Indian corporate governance based on Clause 49 Listing Agreement requires firms listed on Stock Exchanges to have audit committee to ensure that issues like audit policies and practices, investors' relations, internal control, shareholder's grievances, risk management, directors' remuneration, etc. are properly addressed. The board, by modifying audit committee membership, can directly increase the quality of monitoring management's financial reporting process (Beasley & Salterio, 2001). Further, the primarily purpose of this committee is to directly improve the quality of financial reporting, and hence to assist board in oversight functions of firm's accounting, financial reporting process, and the audit of firm's financial statements (Braiotta, Gazzaway, Colson, & Ramamoorti, 2010; Rezaee, 2004; Sharma, 2010).

The external audit role is to provide to improve the quality of firm's financial reports and quality of reported earnings. On the other hand, quality, reliability, and transparency of financial statements can be improved when a firm's financial reporting process is subject to thorough scrutiny by external auditors (Rezaee, 2004). Capital markets also function efficiently when public and particularly market participants including, investors and creditors, have confidence in the financial reporting process and published financial statements which are audited and judged by external auditors (Rezaee & Riley, 2010). As Dee, Lulseged, and Nowlin (2002) point out, the capital market participants have also been concerned

as the amounts of fees companies pay to their auditors for non-audit services increase, because it may create economic incentives for auditors to compromise their independence, resulting in lower quality earnings, and thus lower quality of company's financial reporting.

Abdel-Khalik (1990), DeFond, Raghunandan, and Subramanyam (2002), Firth (2002), and Antle, Gordon, Narayanamoorthy, and Zhou (2006), and Basioudis, Papakonstantinou, and Geiger (2008) believe that examining the impact of non-audit services fees cannot be appropriately accomplished without concurrently assessing the level of audit service fees paid by clients. Additionally, some empirical studies (e.g., Basioudis et al., 2008; Dickins, 2006; Frankel, Johnson, & Nelson, 2002; Habib, 2012; Huang, Mishra, & Raghunandan, 2007; Koh, Rajgopal, & Srinivasan, 2013; Srinidhi & Gul, 2007) have directly investigated the influence of audit fees and non-audit fee on financial reporting quality and different measures of earnings quality. Therefore, we use non-audit fee ratio and audit fee as the proxies for external auditor independence.

Largely, the issue of financial reporting quality has been the focus of users of company's financial statements and reports. The significance of financial reporting and its products, information, as an important actual economic activity is highlighted from both positive and normative scientific perspective by Ball (2008) since it supports numerous internal and external users of financial information to make intensive and extensive economic decisions. In general, the earnings quality as the most important proxy for financial reporting quality has been the focus of financial reports users, particularly investors. Therefore, various measures of reported earnings quality has long attracted researchers' attention because earnings numbers can be regarded as the most important indication of a company's profitability (P. Dechow, Ge, & Schrand, 2010) and as an indicator summary of financial reporting quality (J. Francis, Olsson, & Schipper, 2006) as well. This study employs one of the attributes of earnings quality such as accruals quality adapted by some studies (e.g., Cheng, Man, & Yi, 2013; J. Francis, LaFond, Olsson, & Schipper, 2004; J. Francis et al., 2006; Gaio & Raposo, 2011; Wong, 2009) as proxies for financial reporting quality.

The primary purpose of this study is to investigate the association between two groups of corporate

governance mechanisms and financial reporting quality for a sample of Indian firms listed on National Stock Exchange (NSE). I believe that such a study is important for the reason that Indian corporate sector faces more demand for high-quality financial information, since India as an emerging market and economy has attracted the attention of investors including national and international investors. In addition, limited research has examined the relationship between corporate governance mechanisms and financial reporting quality measured by earnings quality in Indian corporate sector.

The remainder of the paper is preceded as follows. The subsequent section presents the regulatory framework in India and literature review relevant to audit committee, external auditor, and financial reporting quality. The third section describes the research methodology including sample selection process, data source, empirical model, variables definition, and research method applied to test the hypotheses. This is followed by data analysis and results. In the fifth section, the results obtained are discussed. The last section presents summary and conclusion, contributions, limitations, and recommendations for future research arising from the results.

## **2. Literature review and hypothesis development**

### **2.1 Regulatory Framework of Corporate Governance in India**

India's Bombay Stock Exchange has the largest number of listed companies in the world. Yet, despite the size of the stock market in India, ownership remains concentrated in families and an insider-dominated structure seems to persist (Solomon & Solomon, 2004). However, Sarkar and Sarkar (2000) define the Indian system of corporate governance as a hybrid of outsider model, the outsider-dominated market-based systems of the UK and the US, and insider model, the insider-dominated bank-based systems of Germany and Japan, as small shareholders participate in corporate governance. Similar to most Asian countries, Sarkar and Sarkar (2000) provide evidence that the pattern of ownership is the type of family-controlled ownership in India, representing the predominance of family ownership in Indian listed firms.

India is following the global trend reforming its corporate governance system. However, as a former colony of Britain, India has a UK-style legal system that suggests a reasonable level of protection to minority shareholders compared with other East Asian countries (Solomon & Solomon, 2004). Indian corporate sector has experienced considerable and important changes since 1993 when the expression "corporate governance" came to prominence. Since then, a series of legal and regulatory reforms have transformed the corporate governance framework and improved the level of accountability and responsibility of insiders, fairness in the treatment of minority shareholders and stakeholders, board practices and transparency (Mallin, 2011). The framework for Indian corporate governance consists of both organizational framework and legal framework.

The organizational framework for Indian corporate governance initiatives are composed of the Confederation of Indian Industry (CII), the Securities and Exchange Board of India (SEBI), and the Ministry of Corporate Affairs (MCA) which all their efforts are focused on reforming the existing Companies Act of 1956 that still forms the backbone of corporate law in India (GOI, 2014). Therefore, in the following sections, the major reforms and initiatives of corporate governance with respect to the organizational framework introduced in India since the mid-1990s are described. An effective regulatory and legal framework is necessary since it encourages good corporate governance and enables protection of the interests of the investors and other stakeholders. As a result, there is a need for the law to take into account the requirements of corporate governance structure for different kinds of companies. The Company Laws and the Securities and Exchange Board of India (SEBI) Laws primarily comprise the legal framework for corporate governance (GOI, 2014).

### **2.2 Audit Committee**

Previous research suggests that audit committee may improve the quality of firm's financial reporting by increasing earnings quality, reducing the incidence of fraudulent reporting and earnings management. Although, the board has various mechanisms to monitor the financial reporting processes of the firm, the audit committee is the subcommittee of the board which is assigned primary responsibility for this monitoring, and hence the board by modifying audit

committee membership, can directly increase the quality of monitoring management's financial reporting process (Beasley & Salterio, 2001). The most significant responsibility of audit committee, a subcommittee of the board of directors, is to oversee the company's financial reporting process, and thereby confirming the quality of financial reporting. Audit committee is established to improve the auditor independence and thus improve the quality of financial reporting and oversight process (Braiotta et al., 2010; Spira, 1998, 2002). On the other side, one of the most important subject matter to all users of financial information and interested parties of firms (e.g., shareholders, creditors, employees, governments, and consumers etc.) is the quality of financial reporting. Furthermore, the importance of audit committees' monitoring role is also emphasized by regulations in corporate governance reforms such as the Blue Ribbon Committee (BRC) on Improving the Effectiveness of Corporate Audit Committees (BRC, 1999) and Sarbanes-Oxley Act (SOX, 2002) in U.S. and Kumar Mangalam Birla Committee (SEBI, 1999) and Clause 49 of Listing Agreement on Corporate Governance (SEBI, 2006) in India.

There are broadly two strands of research concerning audit committee in prior studies: (i) the first type are studies that examine the relationship between characteristics of audit committee used as independent variables and financial reporting quality and other measures which contribute to the quality of financial reporting as dependent variable, (ii) the second type are studies that are regarded determinants of audit committees and characteristics of audit committee are used as dependent variables.

The present study aims to concentrate mostly on studies that examine relationship audit committee characteristics and financial reporting quality and earnings quality attributes as the proxy for financial reporting quality. Therefore, the following discussion focuses on audit committee characteristics and reviews the existing perspectives argued by previous researchers and the empirical studies in literature with respect to four characteristics of audit committee such as (i) audit committee size (ACSIZE), (ii) audit committee meetings (ACMEET), (iii) audit committee independence (ACINDEP), (iv) audit committee accounting expertise (ACACCEXP) and their influence on financial reporting quality as measured by earnings quality attributes.

### 2.2.1 Audit Committee Size

According to the Clause 49 of the listing agreement of Securities and Exchange Board of India (SEBI) (SEBI, 2006), "The *audit committee shall have minimum three directors as members*" (II. A. I Annexure i). The accounting and auditing literature advocates that the number of audit committee members have an influence on financial reporting quality (Carcello & Neal, 2003; Krishnamoorthy, Wright, & Cohen, 2002; J. Krishnan, 2005; Pomeroy & Thornton, 2008; Pucheta-Martínez & Fuentes, 2007), earnings quality (Baxter & Cotter, 2009), and accruals (Klein, 2002) as used by researchers as measures of financial reporting quality. As DeZoort, Hermanson, Archambeault, and Reed (2002) point out, this is due to the fact that it is likely that audit committees with an appropriate number of members have better resources than smaller audit committees.

Regardless of suitable number of audit committee, empirical research provides mixed evidence. For example, Beasley (1996) suggests that smaller audit committees may be more effective than larger committees. Felo, Krishnamurthy, and Solieri (2003) indicate a positive relationship between audit committee size and financial reporting quality. Davidson, Goodwin-Stewart, and Kent (2005) document evidence of no association between the level of discretionary accruals and the size of an audit committee. In another study, Lin, Li, and Yang (2006) support the hypothesis that a larger audit committee may provide more oversight over the financial reporting process and this oversight seems to improve earnings quality. Using a sample of Australian listed companies, Baxter and Cotter (2009) indicate that audit committee size is not significantly related to both earnings quality measures. Therefore, the following hypothesis is suggested for testing in the present study.  
*H1: Audit committee size is significantly associated with financial reporting quality.*

### 2.2.2 Audit Committee Meetings Frequency

According to the Clause 49 of the listing agreement of Securities and Exchange Board of India (SEBI) (SEBI, 2006), "The audit committee should meet at least four times in a year and not more than four months shall elapse between two meetings. The quorum shall be either two members or one third of the members of the audit committee whichever is greater, but there should be a minimum of two independent members present"

(II. B. Annexure I). Previous empirical studies provide evidence of a positive relationship (García, Barbadillo, & Pérez, 2010; Saleh, Iskandar, & Rahmat, 2007; Vafeas, 2005; Xie, Davidson III, & DaDalt, 2003) and no relationship (Baxter & Cotter, 2009; Bédard, Chtourou, & Courteau, 2004; Davidson et al., 2005; Rahman & Ali, 2006), between audit committee meetings frequency and financial reporting quality and other measures contribute to the quality of financial reporting such as earnings quality and accruals.

Xie et al. (2003) suggest that audit committee activity may be important factor in constraining the propensity of managers to engage in earnings management. Because audit committee activity may influence members' ability to serve as more effective monitors of corporate financial reporting. Vafeas (2005) suggests that greater activity by the audit committee improves monitoring, thereby leading to financial reports of better quality. Davidson et al. (2005) suggest that the quality of financial reporting does not vary with the number of audit committee meetings. Baxter and Cotter (2009) indicate that audit committee meeting frequency is not significantly related to earnings quality measure. García et al. (2010) found a negative relationship between the number of meetings of the audit committee and earnings manipulations measured as abnormal accruals. Consequently, it is expected that meetings of audit committee will be related to financial reporting quality. Therefore, the following hypothesis is suggested:

*H2: Audit committee meetings is significantly associated with financial reporting quality.*

### 2.2.3 Audit Committee Independence

According to the Clause 49 of the listing agreement of Securities and Exchange Board of India (SEBI), "The audit committee shall have minimum three directors as members. Two-thirds of the members of audit committee shall be independent directors" (II. A.i. Annexure I). However, Indian corporate governance reforms (e.g., SEBI, 1999; SEBI, 2006) allow companies to have audit committee with less than 100% comprising of independent directors.

Previous empirical evidence demonstrates a positive association (Beasley, 1996; Beasley, Carcello, Hermanson, & Lapides, 2000; Bédard et al., 2004; Bradbury, Mak, & Tan, 2006; Klein, 2002; Pucheta-Martínez & Fuentes, 2007; Vafeas, 2005; Xie et al.,

2003) between audit committee independence and financial reporting quality and quality of reported earnings, suggesting that independent directors on audit committee are more diligent monitors of financial reporting, because they may have lower economic incentives to collude with top managers and hence are more likely to objectively monitor management performance (Dhaliwal, Naiker, & Navissi, 2010). Further, Beasley (1996) argues that audit committee with higher percentage of independent directors monitor better because they have no economic and personal relationship with board of directors. Nevertheless, Felo et al. (2003), Lin et al. (2006), Baxter and Cotter (2009), and Rainsbury, Bradbury, and Cahan (2009) indicate that independence of audit committee does not have a significant relationship with financial reporting quality.

Beasley et al. (2000) suggest that audit committee independence is an important factor in ensuring financial reporting quality. Felo et al. (2003) suggest that audit committee have an important role to play in ensuring the quality of a firm's financial reporting. Bédard et al. (2004) find that audit committee independence is associated with the quality of financial reporting. Vafeas (2005) suggest that percentage of insider's directors in audit committee is associated with lower earnings quality in a manner that is generally consistent with the predictions of agency theory. Lin et al. (2006) provide no evidence that independence of audit committee has any impact on quality of reported earnings. Pucheta-Martínez and Fuentes (2007) provide evidence that percentage of independent members do have a significant influence on quality of financial information. Baxter and Cotter (2009) provide evidence that audit committee independence is not significantly related to earnings quality measures. Rainsbury et al. (2009) provide evidence that audit committee independence is not significantly related to measures of financial reporting quality. Collectively, according to the mixed results in literature, the following hypothesis is suggested:

*H3: Audit committee independence is significantly associated with financial reporting quality.*

### 2.2.4 Audit Committee Accounting Expertise

According to the Clause 49 of the listing agreement of Securities and Exchange Board of India (SEBI) (SEBI, 2006), "All members of audit committee shall be

financially literate and at least one member shall have accounting or related financial management expertise” (II. A.ii. Annexure I). Financial expertise (accounting and non-accounting expertise) of audit committee as an important characteristics of effectiveness of audit committee has attracted the attention of academics (e.g., Baxter & Cotter, 2009; Bryan, Liu, Tiras, & Zhuang, 2013; Carcello, Hollingsworth, Klein, & Neal, 2006; Cohen et al., 2004; DeFond, Hann, & Hu, 2005; DeZoort et al., 2002; Dhaliwal et al., 2010; Dhaliwal, Naiker, & Navissi, 2007; Felo et al., 2003; G. V. Krishnan & Visvanathan, 2008; Rainsbury et al., 2009; Xie et al., 2003) and regulators such as Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC, 1999) and Sarbanes-Oxley Act (SOX, 2002) in U.S. and Kumar Mangalam Birla Committee (SEBI, 1999) and Clause 49 of Listing Agreement on Corporate Governance (SEBI, 2006) in India.

Felo et al. (2003) show that audit committee members having expertise in accounting or financial management is significantly positively related to different measures of financial reporting quality. DeFond et al. (2005) suggesting that the accounting financial experts improve the audit committee’s ability to ensure high-quality financial reporting. Dhaliwal et al. (2007) find a positive relation between accounting expertise in audit committee and financial reporting quality when is measured by accruals quality. Baxter and Cotter (2009) find evidence that audit committee accounting expertise has a negative and significant association with earnings quality as measured by P. M. Dechow and Dichev (2002) model, but no association with Jones (1991) model. Rainsbury et al. (2009) show that audit committee accounting expertise is not significantly associated with quality of financial reporting. Dhaliwal et al. (2010) indicate a positive association between audit committee accounting expertise and accruals quality. Collectively, the following hypothesis is suggested:

*H4: Audit committee accounting expertise is significantly associated with financial reporting quality.*

### 2.3 External Auditors

External auditors as an external mechanism which provide assurance function may play an important role in monitoring corporate activities to increase

shareholders value in the governance system of firms (Rezaee, 2004), since the external audit role is to provide reasonable assurance, regarding the quality, integrity, and reliability of the published, audited financial statements (Rezaee, 2004; Rezaee & Riley, 2010), and therefore external auditor are expected to improve the credibility and quality of firm’s financial reports and quality of reported earnings. Among many issues regarding auditor independence, the scope of services has been the most troublesome area in auditor independence, both in practice and in theory (Antle et al., 2006).

Overall, the literature supports the view that the use of audit services fees (e.g., Ghosh, Kallapur, & Moon, 2009; Gul, Chen, & Tsui, 2003; Mitra, Deis, & Hossain, 2009; Srinidhi & Gul, 2007) and non-audit services fees (e.g., Basioudis et al., 2008; Dart, 2011; Dickins, 2006; Ferguson, Seow, & Young, 2004; J. R. Francis & Ke, 2006; Frankel et al., 2002; Gul, Tsui, & Dhaliwal, 2006; Srinidhi & Gul, 2007) may be as useful indicator of auditor independence and hence have influence on financial reporting quality and earnings quality. Therefore, this study uses audit fee and non-audit fee ratio as the proxy for external auditor independence. In the subsequent section, views and literature with respect to audit fee and non-audit fee ratio and their impact on the quality of firm’s financial reporting as are discussed and reviewed.

#### 2.3.1 Audit Fee

To examine type of audit fees, it necessitates the examination of other fees paid to the audit firm because clients pay all fees directly to their audit firms (Basioudis et al., 2008). Abdel-Khalik (1990), DeFond et al. (2002), Firth (2002), and Antle et al. (2006) have discussed that examining the magnitude or impact of non-audit services fees cannot be appropriately accomplished without also concurrently assessing the level of audit service fees paid by clients. Examples of research on the association of audit fees and financial reporting quality include Gul et al. (2003) in Australia, Ashbaugh, LaFond, and Mayhew (2003), Srinidhi and Gul (2007), Ghosh et al. (2009), and Mitra et al. (2009) in U.S., and Basioudis et al. (2008) in United Kingdom.

Ashbaugh et al. (2003) replicate the study conducted by Frankel et al. (2002) and find no relation between positive discretionary accruals and audit fee. Gul et al. (2003) indicate that there is a positive

association between discretionary accruals and audit fees. Srinidhi and Gul (2007) indicate that audit fee has a significant positive effect on accrual quality. Mitra et al. (2009) reveal that both the expected and unexpected audit fees have negative relationship with both the absolute and signed (negative and positive) discretionary accruals, suggesting that decrease in discretionary accruals and thus improved quality of financial reporting is alleviated by an increase in expected and unexpected audit fees. Based on previous research (e.g., Mitra et al., 2009; Srinidhi & Gul, 2007), this study leads to the following hypothesis:

*H5: Audit services fee is significantly associated with financial reporting quality.*

### 2.3.2 Non-Audit Fee Ratio

In auditing literature, there are two contradictory perspectives regarding investigation of the association between non-audit services provision fees and financial reporting quality. Firth (2002) argues that one reason for such a relationship is that auditors are unwilling to disagree with clients' accounting policies and interpretations of GAAP when the level of non-audit fees is high, since they do not wish to jeopardize or lose the lucrative consultancy assignments. This situation leads to a greater occurrence of issuing fewer qualified audit reports by audit firms and hence high quality of financial reporting decisions than would otherwise be the case and therefore will reflect an impairment of auditors' independence. The supporters of the first perspective indicate that high level of non-audit services fees impact the impairment of auditor independence and consequently financial reporting quality can be affected (e.g., Dart, 2011; Dickins, 2006; Ferguson et al., 2004; J. R. Francis & Ke, 2006; Frankel et al., 2002; Gul et al., 2006; Srinidhi & Gul, 2007). In contrast to, a number of previous research suggest that provision of non-audit service did not impair auditor independence (e.g., Antle et al., 2006; Dart, 2011; Koh et al., 2013; Ruddock, Taylor, & Taylor, 2006). Therefore, due to the mixed results on the association between proxies for non-audit services fees and various measures of financial reporting quality and earnings quality, this study predicts no sign for this relationship and hence suggests the following hypothesis:

*H6: Non-audit services fee ratio is significantly associated with financial reporting quality.*

## 2.4. Perspectives on Financial Reporting Quality

Although there is no single definition of financial reporting quality, there are nonetheless several agreed-upon aspects of quality. Jonas and Blanchet (2000) classify a number of different approaches dealing with assessment of the quality of financial reporting into two perspectives that have been widely used in various contexts. The first perspective is based on the needs of users. Under this perspective, financial reporting quality is determined relative to the usefulness of the financial information to the users of the information. The second perspective of financial reporting quality is based on the notion of shareholder/investor protection. Under this perspective, the quality of financial reporting is defined primarily in relation to providing shareholders with full and fair disclosure.

A number of methods have been used in the research literature to empirically measure the quality of financial reporting. One broad method has been to use a variety of approaches to measure the quality of the earnings numbers reported in firms' financial reports. Under this method, the greater the quality of earnings, the higher is the overall financial reporting quality. Lev (1989) suggests a belief that earnings is the most important outcome indicator of the financial reporting process as a sufficient statistic for overall financial reporting quality even if earnings is not sufficient. Many other studies have used accruals (e.g., Ashbaugh et al., 2003; Burgstahler, Hail, & Leuz, 2006; Cheng et al., 2013; Chung & Kallapur, 2003; P. M. Dechow & Dichev, 2002; J. Francis, Huang, Rajgopal, & Zang, 2008; J. Francis et al., 2004; J. Francis, LaFond, Olsson, & Schipper, 2005; J. Francis, Nanda, & Olsson, 2008; Frankel et al., 2002; Gaio & Raposo, 2011; Givoly, Hayn, & Natarajan, 2007), as indicator of earnings quality and financial reporting quality.

Researchers also use various proxies to measure earnings quality, for the reason that there is no agreed upon measure for the concept of earnings quality. Among measures of earnings quality summarized by J. Francis et al. (2004), Gaio and Raposo (2011), Cheng et al. (2013), Wong (2009) and P. Dechow et al. (2010), this study focuses on accruals quality as recognized by J. Francis et al. (2004). J. Francis et al. (2004) and J. Francis et al. (2006) that has been broadly used in accounting research and literature. P.

M. Dechow and Dichev (2002) propose accruals quality as an alternative to discretionary accruals measure in assessing the quality of financial reporting. Accruals quality as a measure of earnings quality is based on the view that earnings that map more closely into cash flows are of better quality (J. Francis et al., 2006).

In earnings quality studies, several accruals-based measures have been applied to measure earnings quality. P. M. Dechow and Dichev (2002) model and J. Francis et al. (2005) model are the most commonly used accruals quality models as indicator for earnings quality. In this study, we use accruals quality as proxy for earnings quality proposed by J. Francis et al. (2005) in assessing financial reporting quality, because J. Francis, Nanda, et al. (2008) indicate variation explained by absolute value of abnormal accruals in the J. Francis et al. (2005) is more than measure of accruals quality in the P. M. Dechow and Dichev (2002) model. Assuming that accruals quality has consequences on the quality of financial reporting, it is important to recognize whether and how it can be affected by corporate governance mechanisms.

### 3. Research methodology

#### 3.1 Sample Selection Process

The population from which the sample was drawn was the top 500 Indian companies listed on the National Stock Exchange (NSE) or Bombay Stock Exchange (BSE) based on ranking by *The Economic Times* (TET) with financial years ending during 2012. The decision to use the largest 500 firms has been made because these firms represent a large share of total market capitalization and consequently receive great interest among regulators and investors. The year 2012 was selected as the base year for the collection of the necessary data for which data concerning reports on corporate governance and full financial statement data were available for the sample companies.

Several types of companies in different industry were excluded from the population prior to the selection of the sample. 52 Companies in some industries were excluded. These exclusions reduced the population to 448 companies out of the top 500 companies listed in National Stock Exchange (NSE) from 2008 to 2012. Table 3.1 displays companies selected in the study.

**TABLE 1: Summary of Population and Sample Selection Process**

No. of Firms	
ET (Top) 500 Indian listed firms in National Stock Exchange (NSE)	500
Less:	
Construction	2
Diamonds & Jewellery	6
Entertainment & Media	7
Glass & Glass Products	2
Hospitality	2
Medical Services	2
Real Estate	6
Toys & Home Furnishings	1
Total	52
<b>Total</b>	<b>448</b>

Selection of the sample for this study requires the application of several criteria. First, the companies included those listed on National Stock Exchange (NSE) for the entire course of the study from 2008 to 2012 and in the top 500 Indian companies ranked by *The Economic Times* (TET) at the end of the year 2012. Second, the 448 out of 500 top companies based on ranking by *The Economic Times* (TET) in 2012 were divided into 17 industry groups. Third, each of the seventeen groups in 448 companies were classified based on their revenues in 2012 published in *The Economic Times* (TET). Finally, from the remaining 448 companies, 198 were removed and finally 250 out of 448 companies belonging to different industry groups were selected as final sample to form the basis for the empirical tests. The selection of 250 firms is based on the average total assets of top 448 companies in financial year 2012. Companies whose total assets are less than average total assets of 448 companies, which are 198 companies, are excluded from the 448 companies. However, from the first 250 top companies, those with missing data were replaced by the next companies which ranked between 250 and 448 based. Thus a final sample consists of 250 companies in order to test the relationship between corporate governance characteristics and financial reporting quality measured by earnings quality attributes.

Banks and financial services companies are excluded in some prior studies due to the effects that the balance sheet and other financial reports of the banks and financial firms and institutes, in particular,



have different financial calculations concerning earnings quality measures such as accruals quality. However, no banks and financial services companies and banks are excluded in the population in this study,

because this important industry group represents 14 Percent of the population and sample, and it is therefore appropriate to retain this important sector in the final sample.

TABLE 2: Industry Distribution for the Sample

Industry Code	Industry groupings	Number	Percentage	Sample Selection	2008	2009	2010	2011	2012	Total	Percentage
1	Oil & Gas, Petrochemicals	22	0.05	12	12	12	12	12	12	60	4.8
2	Engineering	48	0.11	27	27	27	27	27	27	135	10.8
3	Steel	28	0.06	16	16	16	16	16	16	80	6.4
4	Textiles	28	0.06	16	16	16	16	16	16	80	6.4
5	Pharmaceuticals	26	0.06	15	15	15	15	15	15	75	6.0
6	Metals, Mining & Minerals	12	0.03	7	7	7	7	7	7	35	2.8
7	Cement & Cement Product	16	0.04	9	9	9	9	9	9	45	3.6
8	Automobiles	31	0.07	17	17	17	17	17	17	85	6.8
9	Fertilisers, Chemicals, Paints	31	0.07	17	17	17	17	17	17	85	6.8
10	FMCG and Consumer Durables	42	0.09	23	23	23	23	23	23	115	9.2
11	Paper	15	0.03	8	8	8	8	8	8	40	3.2
12	Sugar, Breweries	15	0.03	8	8	8	8	8	8	40	3.2
13	Power, Power Generation	15	0.03	8	8	8	8	8	8	40	3.2
14	Telecommunication, Cables	12	0.03	7	7	7	7	7	7	35	2.8
15	Information Technology	29	0.06	17	17	17	17	17	17	85	6.8
16	Transport & Logistics, Shipping	15	0.03	8	8	8	8	8	8	40	3.2
17	Banks, Financial Services	63	0.14	35	35	35	35	35	35	175	14.0
	Total	448	1.00	250	250	250	250	250	250	1250	100

### 3.2 Data Source

Data for financial years that ended during 2004 was also required to calculate measure of accruals quality based on the J. Francis et al. (2005) model. Therefore, data for characteristics of audit committee, external auditor and control variables have been collected during the period from 2008 through 2012, whereas financial data for attribute of earnings quality have been calculated based on financial data over the periods from 2003 to 2013 (eleven-year period) for measuring accruals quality (AQ) model. The computerized database on Indian companies published by the Centre for Monitoring Indian Economy (CMIE), well known as *Prowess* database, was used to collect data on audit committee characteristics, external auditor characteristics, firm characteristics referred to as control variables. The *Prowess* database contains all the annual reports of companies listed on the National Stock Exchange (NSE) or Bombay Stock Exchange (BSE). With respect to the missing data, mostly the financial data for external auditor, firm characteristics, and measuring attribute of earnings quality, following Hair Jr., Black, Babin, and Anderson (2010), the present study replaces the missing data with the mean of the valid data of that

specific variable. Furthermore, to reduce the adverse effect of outliers, all the continuous variables are winsorized in the dataset annually at the top and bottom at extreme percentile (1% and 99%) of their distributions. In winsorization, for example at the 1% (1% and 99%), researcher drops the lowest 1% of the scores and replaces them by copies of the smallest score that remains, then drops the highest 1% and replaces those by copies of the highest score that remains, and then modified data are used for analysis.

### 3.3 Empirical Models

In this section, the following empirical model is employed to test the hypotheses and investigate the association between measure of earnings quality, namely accruals quality (AQ) as dependent variables and characteristics of audit committee and external auditor as independent variables and seven control variables which use data from 2008 to 2012. This model is presented as follows:

$$AQ = \alpha + \beta_8 ACSIZE + \beta_9 ACMEET + \beta_{10} ACINDEP + \beta_{11} ACACCEXP + \beta_{17} AUDITFEE + \beta_{18} NONAFEER + \beta_{19} FSIZE + \beta_{20} LEV + \beta_{21} ROA +$$

$$\beta_{22}LOSS + \beta_{23}SGROW + \beta_{24}MTB + \beta_{25}CFO + \mathcal{E}$$

Where,

**Dependent Variables**

AQ = Accruals quality

**Independent Variables**

**Audit committee characteristics**

ACSIZE = Audit committee size  
 ACMEET= Audit committee meetings  
 ACINDEP = Audit committee independence  
 ACACCEXPERT = Audit committee accounting expertise

**External auditor characteristics**

AUDITFEE= Audit fee  
 NONAFEER = Non-audit fee ratio

**Control Variables**

FSIZE= Firm size  
 LEV = leverage  
 ROA = Return on assets  
 LOSS = Occurrence of loss  
 SGROW = Sales growth  
 MTB= Market to book value  
 CFO = Cash flow from operating activities

**3.4 Variable Definition**

**3.4.1 Measurement of Dependent Variable**

Accruals quality (AQ) as a measure of earnings quality is based on the view that earnings that map more closely into cash flows are of better accruals quality (J. Francis et al., 2006). Accruals are estimates of future cash flows and when those accruals contain a lower estimation error (unexplained portion of the variation in working capital accruals), earnings will be more representative of future cash flows (P. M. Dechow & Dichev, 2002). The accruals quality model used in this study is based on McNichols (2002) modification of P. M. Dechow and Dichev (2002) model and was used by J. Francis et al. (2005) as accruals quality as a proxy for accounting quality. In this model, accruals quality (AQ) is measured by the extent to which current working capital accruals map onto operating cash flows of the lagged, current and future periods.

$$\frac{TCA}{Assets_{j,t}} = \varphi_{0,j} + \varphi_{1,j} \frac{CFO_{j,t-1}}{Assets_{j,t}} + \varphi_{2,j} \frac{CFO_{j,t}}{Assets_{j,t}} + \varphi_{3,j} \frac{CFO_{j,t+1}}{Assets_{j,t}} + \varphi_{4,j} \frac{\Delta Rev_{j,t}}{Assets_{j,t}} + \varphi_{5,j} \frac{PPE_{j,t}}{Assets_{j,t}} + v_{j,t}$$

Equation (3.1)

Where  $TCA_{j,t} = \Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t}$  = total current accruals in year  $t$ ;  $Assets_{j,t}$  = firm  $j$ 's average total assets in year  $t$  and  $t-1$ ;  $CFO_{j,t}$  = cash flow from operations in year  $t$ , is calculated as net income before extraordinary items (NIBE) less total accruals (TA), where  $(TA_{j,t} = \Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t} - DEPN_{j,t})$  and  $\Delta CA_{j,t}$  = firm  $j$ 's change in current assets between year  $t-1$  and year  $t$ ;  $\Delta CL_{j,t}$  = firm  $j$ 's change in current liabilities between year  $t-1$  and year  $t$ ;  $\Delta Cash_{j,t}$  = firm  $j$ 's change in cash between year  $t-1$  and year  $t$ ;  $\Delta STDEBT_{j,t}$  = firm  $j$ 's change in debt in current liabilities between year  $t-1$  and year  $t$ ;  $DEPN_{j,t}$  = firm  $j$ 's depreciation and amortization expense in year  $t$ ;  $\Delta Rev_{j,t}$  = firm  $j$ 's change in revenues between year  $t-1$  and year  $t$ ;  $PPE_{j,t}$  = firm  $j$ 's gross value of property, plant, and equipment (PPE) in year  $t$ .

To obtain a firm-specific, time-series measure of accruals quality, Equation (3.1) is estimated for each firm over rolling ten-year window in J. Francis et al. (2004), with each estimation yielding firm- and year-specific residuals  $v_{j,t}$ . The regression residuals ( $v_{j,t}$ ) are used to calculate the accruals quality metric, accruals quality (AQ) =  $\sigma(v_{j,t})$  is the standard deviation of firm  $j$ 's estimated residuals,  $v_{j,t}$  calculated over years  $t-4$  through  $t$ . Higher (lower) values of accruals quality (AQ) indicate poorer (better) accruals quality because less of the variation in current accruals is explained by operating cash flow realizations. Gaio and Raposo (2011) state that as earnings are the sum of accruals and cash flows, and the cash flow component is normally considered to be objective and not manipulated, the quality of earnings depends on the quality of accruals. Therefore, lower accruals quality indicates a lower level of earnings quality. However, in order to comply this variable to my ordering attributes, *Accruals quality (AQ)* =  $-\sigma(v_{j,t})$ , so that larger (smaller) standard deviations of residuals correspond to higher (lower) accruals quality and better (poorer) earnings quality, hence better (poorer) quality of financial reporting.

**3.4.2 Measurement of Independent Variables**

**3.4.2.1 Audit Committee Characteristics**

**Audit committee size (ACSIZE)** is the number of directors serving on the audit committee.

**Audit committee meetings (ACMEET)** is the number of audit committee meetings held during the financial year.

**Audit committee independence (ACINDEP)** is the number of independent directors serving on the audit committee over total number of audit committee members.

**Audit committee accounting expertise (ACACCEXP)** as a director in audit committee who is a member of the Institute of Chartered Accountants of India (ICAI) called Chartered Accountant (CA) in India, is a member of the Institute of Cost Accountants of India, or has an academic accounting degree, or has a background, knowledge, and expertise in accounting and auditing. This variable takes the value of one "1" if at least one member of audit committee meets my accounting expertise definition; and zero "0" otherwise.

#### 3.4.2.2 External Auditor Characteristics

**Audit fee (AUDITFEE)** is the logarithm of audit services fees.

**Non-audit fee ratio (NONAFEER)** is the proportion of non-audit services fees (total amount of payment for services including the taxation matters and auditors' fees for company law matters and others) to total audit fees (the sum of audit services fee and non-audit services fees).

#### 3.4.3 Measurement of Control Variables

**Firm size (FSIZE)** is the natural logarithm of total assets at the year-end.

**Leverage (LEV)** is the total liabilities divided by total assets at the end of fiscal year.

**Return on assets (ROA)** is net profit before tax and extraordinary items divided by average total assets at the end of fiscal year.

**Occurrence of loss (LOSS)** is a dummy variable equal to one if the net profit (income) reported by company in the current fiscal year is negative (if the firm reports a net loss in the current fiscal year) and zero (positive net profit) otherwise as a proxy of economic losses.

**Sales growth (SGROW)** is the annual sales growth (current year sales – previous year's sales) divided by previous year's sales at the end of financial year.

**Market to book value ratio (MTB)** is the market capitalisation (closing price multiplied by shares outstanding) divided by book value of equity (book value per share multiplied by outstanding shares) at the end of financial year.

**Cash flow from operating (CFO)** is the net cash flows from operating activities at year  $t$  scaled by

lagged total assets (total assets at the beginning of year  $t$ ).

### 3.5 Panel Data Regression

This paper has applied panel data regression to investigate the impact of the corporate governance two mechanisms, namely audit committee and external auditors as independent variables on accruals quality, since prior accounting studies (e.g., Lim, How, & Verhoeven, 2014; Mitra et al., 2009; Prior, Surroca, & Tribó, 2008; Sánchez-Ballesta & García-Meca, 2007; Wang, 2014) has accepted panel data estimation. Panel data method which is also known as longitudinal data or combination of time series and cross sectional data, combines features of both time series and cross-section data, and hence refers to the data on the same cross-sectional unit for firm over several years (Gujarati, 2003) and each micro-unit is observed for a number of time periods (Hill, Griffiths, & Lim, 2011).

In financial and accounting research, there are two types of panel estimator approaches that may be used: fixed effects model and random effects model. The *Hausman test* is applied in order to determine which technique is more suitable for the panel data. Therefore, the following hypotheses are to be tested:

*H1: the random effect model is more suitable.*

*H0: the fixed effect model is more suitable.*

The results of the *Hausman test* follow the *chi-square* ( $\chi^2$ ) distribution. If it is lower than the critical value ( $\chi^2 < \text{critical value}$ ), the null hypothesis will be rejected and the fixed effects model will be more suitable for panel data, and random effects model otherwise. Afterwards, this study run model using fixed effects model or random effects model of accruals quality measure on corporate governance mechanisms including audit committee characteristics, external auditor characteristics, and control variables in main analysis.

## 4. data analysis and results

### 4.1 Descriptive Statistics

Table 3 describes the descriptive statistics for accruals quality ( $AQ$ ) of the Indian firms in the sample.

Table 4 and 5 describes the descriptive statistics for characteristics of audit committee, external auditor, and control variables of the Indian firms in the sample

**TABLE 3:** Descriptive Statistics of Accruals Quality (Dependent Variables)

<i>Earnings Quality Attributes</i>	<i>Mean</i>	<i>Std.Dev.</i>	<i>10%</i>	<i>25%</i>	<i>Median</i>	<i>75%</i>	<i>90%</i>
<i>AQ</i>	-0.084	0.194	-0.149	-0.086	-0.050	-0.029	-0.017

**Variables definition:** *Accruals Quality (AQ)* = the negative of the standard deviation of year  $t-4$  to year  $t$  of firm  $j$ 's residuals from a regression of current accruals on lagged, current, and future net cash flow from operating activities.

**TABLE 4:** Descriptive Statistics of Independent Variables

<i>Panel A: Continuous Variables</i>							
<i>Independent Variables</i>	<i>Mean</i>	<i>Median</i>	<i>Std.Dev.</i>	<i>Min</i>	<i>Max</i>	<i>Skewness</i>	<i>Kurtosis</i>
<i>ACSIZE</i>	4.062	4.000	1.053	2.000	10.000	1.188	4.958
<i>ACMEET</i>	5.646	5.000	2.114	1.000	15.000	1.507	5.311
<i>ACINDEP</i>	0.821	0.800	0.199	0.000	1.000	-1.206	4.777
<i>AUDITFEE</i>	15.534	15.384	1.478	11.513	20.974	0.816	4.226
<i>NONAFEER</i>	0.271	0.271	0.205	0.000	0.863	0.293	2.158
<i>Panel B: Dichotomous Variables</i>							
	<i>Mean</i>	<i>Median</i>	<i>Number of firms Coded "0"</i>		<i>Number of firms Coded "1"</i>		
<i>ACACCEPERT</i>	0.430	0.000	713		537		

**Variables definition:** **Audit committee size (ACSIZE)** = Number of directors serving on the audit committee; **Audit committee meetings (ACMEET)** = The number of audit committee meeting held during the financial year; **Audit committee independence (ACINDEP)** = Number of independent directors serving on the audit committee divided by total number of audit committee members; **Audit committee accounting expertise (ACACCEPERT)** = This variable takes the value of "1" if at least one member of audit committee has accounting expertise and "0" otherwise; **Audit fee (AUDITFEE)** = Natural logarithm of audit fee; **Non-audit fee ratio (NONAFEER)** = Proportion of non-audit services fees to total audit fees.

**TABLE 5:** Descriptive Statistics of Corporate Characteristics (Control Variables)

<i>Panel A: Continuous Variables</i>							
<i>Control Variables</i>	<i>Mean</i>	<i>Median</i>	<i>Std.Dev.</i>	<i>Min</i>	<i>Max</i>	<i>Skewness</i>	<i>Kurtosis</i>
<i>FSIZE</i>	25.047	24.727	1.615	20.807	30.225	0.580	2.782
<i>LEV</i>	0.632	0.641	0.233	0.002	2.049	0.305	4.715
<i>ROA</i>	0.093	0.069	0.108	-0.465	0.680	0.710	6.840
<i>SGROW</i>	0.303	0.187	2.022	-0.746	66.142	29.004	916.084
<i>MTB</i>	3.438	2.017	9.269	-43.618	218.500	16.990	371.516
<i>CFO</i>	0.087	0.081	0.136	-1.501	0.806	-1.637	23.801
<i>Panel B: Dichotomous Variables</i>							
	<i>Mean</i>	<i>Median</i>	<i>Number of firms Coded "0"</i>		<i>Number of firms Coded "1"</i>		
<i>LOSS</i>	0.078	0.000	1153		97		

**Variables definition:** **Firm Size (FSIZE)** = Natural logarithm of the book value of a firm's total assets at the end of its financial year; **leverage (LEV)** = Leverage is measured as total liabilities divided by total assets at the end of fiscal year; **Return on assets (ROA)** = Profitability is defined as income before extraordinary items and tax divided by average total assets at the end of fiscal year; **Sales growth (SGROW)** = The percentage of the difference between current year's sales and previous year's sales divided by previous year's sales of a firm at the end of its financial year; **Market to book value (MTB)** = Market capitalisation (closing price multiplied by shares outstanding) divided by book value of equity (book value per share multiplied by outstanding shares); **Cash flow from operating activities (CFO)** = Net cash flows from operating activities at year  $t$  scaled by lagged total assets (total assets at the beginning of year  $t$ ); **Occurrence of loss (LOSS)** = A dummy variable equal to "1" if the net profit (income) reported by company in the current fiscal year is negative and "0" (positive net profit) otherwise (LOSS) as a proxy of economic losses.

## 4.2 Pairwise Pearson Correlation Matrix

Table 6 presents the pairwise correlation matrix for the accruals quality measures and audit committee and external auditor characteristics and firm characteristics (control variables) used in the panel data regression analysis. Observations for all variables in the correlation analysis matrix indicate that all of the correlation coefficients are less than 80%. The highest correlation coefficient is recorded at 663%, which is

between firm size (FSIZE) and audit fee (AUDITFEE). The significant relationship is determined at confidence level of 90%, 95%, and 99%. Therefore, from the correlation magnitudes can be concluded that the multicollinearity is not a serious issue to the results of the panel data analysis.

TABLE 6: Pairwise Pearson Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. AQ	1													
2. ACSIZE	0.11***	1												
3. ACMEET	-0.29***	-0.20***	1											
4. ACINDEP	-0.04	-0.38***	0.14***	1										
5. ACACCEXP	0.05*	0.15***	-0.14***	-0.09***	1									
6. AUDITFEE	-0.20***	-0.36***	0.44***	0.18***	-0.22***	1								
7. NONAFEER	0.01	-0.23***	0.20***	0.23***	-0.09***	0.40***	1							
8. FSIZE	-0.29***	-0.32***	0.51***	0.14***	-0.16***	0.66***	0.23***	1						
9. LEV	0.05*	0.13***	-0.15***	-0.22***	0.13***	-0.21***	-0.31***	-0.25***	1					
10. ROA	0.06**	-0.07**	0.08***	0.17***	-0.11***	0.09***	0.17***	0.20***	-0.53***	1				
11. LOSS	-0.10***	-0.01	0.08***	-0.02	-0.05	0.06**	0.07**	0.07**	0.19***	-0.41***	1			
12. SGROW	-0.05	0.05*	-0.03	-0.11***	0.04	-0.04	-0.15***	-0.02	0.15***	0.02	-0.07**	1		
13. MTB	0.02	-0.01	0.03	0.13***	-0.06**	0.01	0.10***	0.15***	-0.11***	0.51***	-0.11***	0.01	1	
14. CFO	0.06**	0.03	0.02	0.09***	0.01	-0.05*	0.06**	0.09***	-0.28***	0.57***	-0.16***	-0.02	0.29***	1

Note: \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels for two-tailed tests, respectively

### 4.3 Panel Data Regression

Table 7 presents the results of Hausman tests to choose fixed effects or random effects. As it is shown, the most suitable estimation method for measure of accruals quality (AQ) is fixed effects model, because the results of Hausman test indicate that  $\chi^2$  is significant at the level of 5% ( $p\text{-value} < 0.05$ ) and hence the null hypothesis is rejected for the models such as accruals quality (AQ).

Table 8 presents the results of panel data (fixed effects) regression of accruals quality on audit committee characteristics, external auditor characteristics, and control variables. The results of fixed effects method of panel data in table 8 reveal that Model (1) is statistically significant at the 1% level of significance with  $R^2$  within of 3.04%,  $F\text{-statistic}$  of 29.58 and  $p\text{-value}$  0.0000. In panel A, audit committee size (ACSIZE:  $\beta = -0.013, p < 0.05$ ) is negatively and significantly related to accruals quality (AQ). Therefore, the first hypothesis is supported at the 5% level of significance. Audit committee meetings (ACMEET) is not significant and does not affect accruals quality. Consequently, the second hypothesis is rejected. Audit committee independence (ACINDEP:  $\beta = 0.022, p < 0.01$ ) has a positive and significant relationship with accruals quality (AQ). Therefore, the third hypothesis is supported at the 1% level of significance. Audit committee accounting expertise (ACACCEXP) is not significant and does not affect accruals quality. Therefore, the fourth hypothesis is rejected. In panel B, Audit fee (AUDITFEE) is insignificant but Non-audit fee ratio (NONAFEER:  $\beta = -0.012, p < 0.10$ ) is negatively and

significantly related to accruals quality (AQ). Consequently, the fifth hypothesis is rejected, but sixth hypothesis is supported at the 10%, level of significance. In panel C, logarithm of total assets (FSIZE), financial leverage (LEV), and return on assets (ROA), occurrence of loss (LOSS) are not significant and does not affect accruals quality. Sales growth (SGROW) ( $\beta = -0.004, p < 0.05$ ) is significantly associated with accruals quality and has a negative effect on accruals quality. Market to book value (MTB) and cash flow from operating activities (CFO) are insignificant and do not affect accruals quality.

Furthermore, In Model (2) as an additional analysis, panel data regression is performed to examine the sensitivity and robustness of my main results as reported in Model (1). In Model (2), two dummy variables, namely year dummy and industry dummy are included in Model (1) and the rest of the variables remain the same. Although the results for the most of the variables remain unchanged in Model (2) relative to Model (1). The results of fixed effects method of panel data in table 8 reveal that Model (2) is statistically significant at the 1% level of significance with  $R^2$  within of 3.75%,  $F\text{-statistic}$  of 29.62 and  $p\text{-value}$  0.0000. In panel A, audit committee size (ACSIZE:  $\beta = -0.013, p < 0.05$ ) is negatively and significantly related to accruals quality (AQ). Audit committee meetings (ACMEET) remains unchanged insignificant and does not affect accruals quality. Audit committee independence (ACINDEP:  $\beta = 0.022, p < 0.01$ ) has a positive and significant relationship with accruals quality (AQ). Audit committee accounting expertise (ACACCEXP) remains

unchanged insignificant and does not affect accruals quality. In panel B, Audit fee (AUDITFEE) remains unchanged insignificant and does not affect accruals quality but Non-audit fee ratio (NONAFEER:  $\beta = -0.013$ ,  $p < 0.05$ ) is negatively and significantly related to accruals quality (AQ). In panel C, logarithm of total assets (FSIZE), financial leverage (LEV), and return on assets (ROA) remain unchanged insignificant and does not affect accruals quality. Occurrence of loss (LOSS) remains unchanged insignificantly, but the

sign of coefficient is negative. Sales growth (SGROW) ( $\beta = -0.005$ ,  $p < 0.05$ ) is significantly associated with accruals quality and has a negative effect on accruals quality. Market to book value (MTB) and cash flow from operating activities (CFO) remain unchanged insignificant and do not affect accruals quality. In conclusion, the results of this additional test in Model (2) are relatively similar to those reported as the main analysis in Model (1).

**TABLE 7: Result of Hausman Test for Fixed Effects or Random Effects**

Hausman Test			
H <sub>0</sub> : Random effects model is appropriate.			
H <sub>1</sub> : Fixed effects model is appropriate.			
Decision: Reject H <sub>0</sub> if Chi-square ( $\chi^2$ ) is significant ( $p$ -value < 0.05).			
MODEL	$\chi^2$	Prob > $\chi^2$	Fixed effects / Random effects
Accruals Quality (AQ)	63.49	0.0000	Fixed effects

**TABLE 8: Panel Data Regression**

Independent Variables	Fixed effects		Fixed effects	
	Accruals Quality (Model 1) Estimate	P-value	Accruals Quality (Model 2) Estimate	P-value
<i>Panel A: Audit Committee Characteristics</i>				
ACSIZE	-0.013**	(0.028)	-0.013**	(0.028)
ACMEET	0.030	(0.598)	0.015	(0.798)
ACINDEP	0.022***	(0.000)	0.022***	(0.000)
ACACCEXP	-0.002	(0.727)	-0.001	(0.748)
<i>Panel B: External Auditor</i>				
AUDITFEE	3.004	(0.609)	5.284	(0.384)
NONAFEER	-0.012*	(0.064)	-0.013**	(0.044)
<i>Panel C: Firm Characteristics</i>				
FSIZE	-647.003	(0.101)	-260.656	(0.596)
LEV	0.009	(0.418)	0.012	(0.313)
ROA	0.021	(0.257)	0.021	(0.271)
LOSS	0.000	(0.934)	-0.001	(0.903)
SGROW	-0.004**	(0.048)	-0.005**	(0.031)
MTB	-9.797	(0.979)	-0.000	(0.867)
CFO	0.009	(0.311)	0.012	(0.190)
Constant	-0.041*	(0.089)	-0.077**	(0.036)
Year Dummy		No		Included
Industry Dummy		No		Included
Observations	1,250		1,250	
Number of groups	250		250	
R <sup>2</sup> within model	3.04%		3.75%	
R <sup>2</sup> overall model	1.90%		0.24%	
R <sup>2</sup> between model	1.77%		0.02%	
F-statistics	29.58		29.62	
p-value (F-statistics)	0.0000		0.0000	

Notes: p-values in parentheses, \*, \*\*, \*\*\* denote two-tailed significance at the 10%, 5%, 1% level, respectively.

## 5. Discussion of Results

This section focuses on the discussion of the results of four hypotheses of audit committee with respect to

four characteristics of audit committee such as audit committee size (ACSIZE), audit committee meetings (ACMEET), audit committee independence

(ACINDEP), audit committee accounting expertise (ACACCEXPERT) and two external auditor characteristics consist of two hypotheses associated with auditor independence, namely audit fee (AUDITFEE) and non-audit fee ratio (NONAFEER) which may have influence on financial reporting quality as measured by earnings quality attribute, namely accruals quality (AQ) contributing to financial reporting process.

The hypothesis relating to audit committee size (ACSIZE) proposes that audit committee size (ACSIZE) is significantly associated with financial reporting quality measured by earnings quality attribute, namely accruals quality (AQ). The results show that audit committee size (ACSIZE) is negatively and significantly associated with earnings quality when measured by accruals quality (AQ), which indicates that smaller audit committees are more effective in monitoring the financial accounting process, meaning that the smaller (larger) the audit committee size (ACSIZE) during financial year, the higher (lower) the quality measures of reported earnings, and hence better (poorer) quality of financial reporting. These findings imply that audit committee size (ACSIZE) play an important role in determining the effectiveness of the audit committee in enhancing earnings quality and financial reporting quality in Indian firms. Additionally, these findings also suggest that audit committee size (ACSIZE) may be important factor in audit committee members' ability to effectively monitor the financial reporting process in Indian context. Therefore, the hypothesis is supported. This result is in line with the results of Beasley (1996) who suggests that smaller audit committee is more effective than larger audit committee in preventing likelihood of fraudulent financial reporting.

Audit committee meetings (ACMEET) is measured as the number of meetings held by directors on audit committee during the financial year to indicate the level of diligence exercised by its members. This study finds no significant evidence of the association between audit committee meetings (ACMEET) and earnings quality when measured by accruals quality (AQ), meaning that audit committee meetings (ACMEET) does not affect quality measures of reported earnings, and hence better (poorer) quality of financial reporting in Indian context. From this evidence, it may infer that audit committee meetings (ACMEET) does not play an important role in

determining the audit committee effectiveness in improving earnings quality and financial reporting quality in Indian firms. Therefore, the hypothesis is not supported. This result is consistent with the results of Bédard et al. (2004), Davidson et al. (2005), Rahman and Ali (2006), and Baxter and Cotter (2009) who report no significant association between audit committee meetings frequency and different proxies for earnings quality and financial reporting quality and thereby the audit committee meetings frequency as an important factor does not effectively monitor the financial reporting.

The hypothesis in relation to audit committee independence (ACINDEP) states that audit committee independence (ACINDEP) is significantly associated with financial reporting quality measured by earnings quality attribute, namely accruals quality (AQ). The result indicates that audit committee independence (ACINDEP) is positively and significantly associated with earnings quality when measured by accruals quality (AQ), meaning that the larger (smaller) the audit committee independence (ACINDEP) during financial year, the higher (lower) the quality measures of reported earnings, and hence better (poorer) quality of financial reporting. This finding implies that audit committee independence (ACINDEP) play an important role in determining the effectiveness of the audit committee in monitoring the financial reporting process effectively, particularly in enhancing earnings quality and financial reporting quality, suggesting that independent directors in audit committee are more diligent monitors of financial reporting process in Indian firms. Therefore, the hypotheses are not supported. This result is consistent with the results of Beasley (1996), Beasley et al. (2000), Klein (2002), Xie et al. (2003), Bédard et al. (2004), Bradbury et al. (2006), and Pucheta-Martínez and Fuentes (2007) who provide evidence that percentage of independent members have a significant influence on different proxies for earnings quality and financial reporting quality, suggesting that audit committee independence is effective in the financial reporting process and thereby enhancing the quality of financial reporting.

The hypothesis concerning audit committee accounting expertise (ACACCEXPERT) postulates that audit committee accounting expertise (ACACCEXPERT) is significantly associated with financial reporting quality measured by earnings quality attributes, namely accruals quality (AQ). This

study indicates that audit committee accounting expertise is not significantly associated with earnings quality and quality of financial reporting when measured by accruals quality (AQ), meaning that the audit committee accounting expertise (ACACCEXPERT) does not affect quality measures of reported earnings, and hence quality of financial reporting in Indian context. Therefore, the hypothesis is not supported. Considering this measure of earnings quality, audit committee accounting expertise (ACACCEXPERT) does not play an important role in determining the audit committee effectiveness in improving earnings quality and financial reporting quality in Indian firms. The result is consistent with the results of Rainsbury et al. (2009) and Baxter and Cotter (2009) who indicate that audit committee accounting expertise is not significantly associated with quality of financial reporting, suggesting that a director with accounting expertise does not improve the quality of financial reporting.

The hypothesis relating to audit fee (AUDITFEE) postulates that audit fee (AUDITFEE) is significantly associated with financial reporting quality measured by earnings quality attributes, namely accruals quality (AQ). This study also reports no association between audit fee (AUDITFEE) and earnings quality when measured by accruals quality (AQ), indicating that audit fee (AUDITFEE) does not affect earnings quality and financial reporting quality. These findings imply that audit fee (AUDITFEE) does not have monitoring function on the financial reporting process in Indian firms, particularly in enhancing earnings quality and financial reporting quality. Therefore, the hypothesis is not supported. This result is consistent with the results of Ashbaugh et al. (2003) who find no relation between positive discretionary accruals and audit fee.

The hypothesis relating to non-audit fee ratio (NONAFEER) postulates that non-audit fee ratio (NONAFEER) is significantly associated with financial reporting quality measured by earnings quality attributes, namely accruals quality (AQ). The result indicates that non-audit fee ratio (NONAFEER) is negatively and significantly associated with earnings quality when measured by accruals quality (AQ), meaning that the smaller (larger) the non-audit fee ratio (NONAFEER), the higher (lower) the quality measures of reported earnings, and hence better (poorer) quality of financial reporting in Indian firms. Therefore, the hypothesis is supported for the accruals

quality (AQ) model. This finding implies that firms purchasing less (more) non-audit services from their auditor are more (less) likely to report higher earnings quality and better (poorer) financial reporting quality. These findings support the argument under which auditors are unwilling to disagree with clients' accounting policies and interpretations of GAAP when the level of non-audit fees are high, since they do not wish to lose the lucrative consultancy assignments, indicating that high level of non-audit services fees impact the impairment of auditor independence, and consequently financial reporting quality can be affected (e.g., Dickins, 2006; Ferguson et al., 2004; Firth, 2002; J. R. Francis & Ke, 2006; Frankel et al., 2002; Gul et al., 2006; Srinidhi & Gul, 2007).

## 6. Summary and Conclusions

This study investigates the relationship between two players of corporate governance and financial reporting quality in a sample of 250 Indian firms over a five-year period from 2008 to 2012. Corporate governance has been measured by characteristics of two mechanisms, namely audit committee including audit committee size (ACSIZE), audit committee independence (ACINDEP), audit committee meetings (ACMEET), and audit committee accounting expertise (ACACCEXPERT) as internal mechanisms and external auditors including audit fee (AUDITFEE) and non-audit fee ratio (NONAFEER) as external mechanism. Although this study provides some evidence on the influence of corporate governance mechanisms on financial reporting quality, the findings reveal that corporate governance mechanisms fails to indicate strong effects on financial reporting quality. This implies that the corporate governance code and regulations, so far, are not very effective in improving the quality of financial reporting. Audit committee size audit committee independence are significantly associated with financial reporting quality. Inconsistent with the expectation, Audit committee meetings and audit committee accounting expertise are not significantly associated with financial reporting quality. Another noticeable result with regard to external auditor indicates that audit fees as a signal of auditor independence is not significantly associated with financial reporting quality, but non-audit fee ratio is negatively and significantly associated with financial reporting quality. When these results are taken together, it can be said that the



internal and external mechanisms of corporate governance may play partially significant roles in the quality of financial reporting with the exception for audit committee meetings, audit committee accounting expertise, audit fees whose results show no association between these three characteristics and accruals quality as the proxy for financial reporting quality.

### **6.1 Contribution**

Concerning audit committee meetings and audit committee accounting expertise, the current study suggests that all of the recommendations are not effective when it comes to financial reporting quality and earnings quality, since the present research provides evidence that meetings and accounting expertise of audit committee are not significantly associated with financial reporting quality. Given that the recommendations of Clause 49 of Listing Agreement on Corporate Governance (SEBI, 2006) are costly to implement, it is important to ensure that they are effective in mitigating agency problem and minimizing agency costs. Based on the results, there are doubts over the usefulness of some aspects of recommendations such as meetings and accounting expertise of audit committee. Therefore, regulators and other standard setters should consider reassessing the related recommendations as to audit committee characteristics in future amendments or corporate governance reforms in terms of the results of this study and more future research.

### **6.2 Limitations**

There are some limitations of this study listed as follows:

- 1) This study focuses on the top 500 Indian companies, largest Indian firms listed on the National Stock Exchange (NSE) or Bombay Stock Exchange (BSE) based on ranking by The Economic Times (TET), and hence the results may not be generalizable to the population of non-top 500 Indian firms including small and medium sized firms.
- 2) Measurement of some variables may be subject to measurement error, for example measuring audit committee accounting expertise due to the limited scope of biographical data on corporate governance reports for directors serving on audit committee.

- 3) One important limitation on this study is inclusion of the financial listed firms including banks and financial services companies which may affect the results. This industry is excluded from the sample firms in some prior studies due to the effects that the balance sheet and other financial reports of the banks and financial firms and institutes may have, particularly, on financial calculations concerning earnings quality measures such as accruals quality. No banks and financial services companies are excluded in the population in this study, because this industry group represents 14 percent as important section of the population and sample, and for that reason it is appropriate to retain this important sector in the Indian sample firms. Therefore, this study recommends researchers to consider samples excluding financial listed firms such as banks and financial services companies for future research in this area, since the results might be affected.

### **6.3 Recommendations for Future Research**

- 1) Researchers for the future exploration on this area are suggested to consider more measures such as abnormal quality, earnings variability, earnings informativeness (or earnings response coefficient), earnings opacity, e-loading measure of earnings quality as suggested by J. Francis et al. (2006), and other methods of calculating attributes of earnings quality such as persistence, predictability, smoothness, value relevance, timeliness and conservatism in order to construct relatively comprehensive measure for earnings quality as the proxy for financial reporting quality that may better represent the earnings quality. Further, it is recommended to use other proxies for financial reporting quality such as different models for capturing earnings management, financial restatements, fraudulent financial reporting, analyst earnings forecasts, audit quality, and going-concern modified audit opinion.
- 2) This study does not take into consideration the endogeneity problem (endogeneity happens when independent variables are correlated to error terms) in the relationship between

corporate governance characteristics and financial reporting quality and also hence does not provide solutions to these issues, while as Larcker and Rusticus (2010) point out, the endogeneity problems frequently occur in accounting research. Consequently, this issue is worthy of investigation. Therefore, future research may examine this association using econometrics methods such as instrumental variables (IV) and simultaneous system of equation in order to provide a better understanding of the interaction between corporate governance characteristics and financial reporting quality.

- 3) This study only considers audit and non-audit fees for measurement of external auditor independence as external mechanism of corporate governance. However, external auditor may also be measured by other proxies and dimensions including audit quality, auditor brand name such as big/non-big (N) auditor, auditor tenure, and auditor industry specialization influencing earnings quality and financial reporting quality may be examined by researchers to cover relatively the research on this area in a future work.

### Acknowledgements

This paper was extracted from Ph.D. thesis written by Nasrollah Takhtaei in Department of Commerce, Delhi School of Economics, University of Delhi, Delhi - 110007, INDIA. We would like to thank anonymous referees as well as Editor-in-Chief Professor Fraydoon Rahnamay Roodposhti.

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