

Do diligent independent directors restrain earnings management practices? Indian lessons for the global world

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Abstract

Purpose – The purpose of this paper is to explore the role of independent directors' diligence in restraining earnings management practices in the Indian context.

Design/methodology/approach – It employs a panel data analysis to test the association of earnings management with the diligence of independent directors.

Findings – The results suggest that the diligence of independent directors has a significant impact on earnings management. The findings support the agency theory and provide evidence of the role played by the board processes in restricting earnings management.

Originality/value – This study is important for the regulators as it highlights the significance of independent directors' diligence in producing higher quality financial statements, thereby creating the real economic value of companies. This is the first article that explores the impact of independent directors' diligence on earnings management practices particularly in the context of an emerging economy, like India in the light of new Companies Act 2013 and revised Clause 49 of the Listing Agreement, 2014 by Securities and Exchange Board of India.

Keywords India, Earnings management, Independent director, Audit committee diligence, Board diligence

Paper type Research paper

1. Introduction

Earnings management by companies is a widespread phenomenon throughout the world. The lack of quality financial reporting for personal gains by the management affects investors' decision making and indicates poor corporate governance. The corporate governance structure, more than on the board, hinges on independent directors. They are responsible for bringing objectivity to the oversight function of the board and thus, improving its effectiveness. The importance of corporate governance and quality financial reporting in the business environment of the developing countries has started receiving increased attention in the recent times, especially when companies from developing economies are going global (Goel, 2018).

The corporate board and audit committee are two important pillars of corporate governance as they are instrumental in the prevention and detection of fraud[1]. Independent directors are mandatorily a part of both these structures. It is argued that if independent directors are diligent in discharging their monitoring duties, it should bring impartiality in the



decision-making process of the board. On the other hand, if independent directors do not attend the meetings, other board members will have an opportunity to exercise their discretionary behaviour and the board's monitoring effectiveness may be weak.

The primary objective of this study is to analyse the role of independent directors' diligence in restraining earnings management practices, particularly in the context of a developing economy like India which is characterised by concentrated corporate ownership and family control of firms. About 90 per cent of Indian businesses are family owned (Merchant, 2011). Besides the family dominance of Indian firms, the research on earnings management in emerging markets like India is also important as there is a high demand for capital by companies from global markets and foreign institutional investors play an important role in channelling this capital. Sustained flow of foreign capital into the Indian stock market can be fulfilled only if investors are protected from accounting frauds and deceptive earnings management practices. Moreover, there is a substantial segment of retail investors in India who depend on the financial reports of companies for making investment decisions and regulators have a fiduciary duty to protect these unsophisticated and gullible investors (Ajit *et al.*, 2013).

Prior studies have explored the role of board characteristics in restraining earnings management practices, these studies are mostly contextualised in developed economies like the USA, the UK and Australia (Peasnell *et al.*, 2000; Klein, 2002; Xie *et al.*, 2003; Baxter and Cotter, 2009; Jaggi *et al.*, 2009; Kent *et al.*, 2010). The findings of such studies might have limited generalisability particularly in case of developing economies, like India. The studies have also highlighted that mere independence of the board does not have a significant influence on the effectiveness of corporate boards (Sarkar *et al.*, 2008); rather their participation in board processes restrains earnings management and leads to effective corporate governance. Therefore, the independent directors' diligence becomes highly significant in ensuring effective corporate governance.

Only one research has evaluated the importance of independent director diligence in the Indian context (Sarkar *et al.*, 2008). However, the real impact of corporate governance crisis was experienced by corporate India after the year 2008 (Chakrabarti *et al.*, 2011), post-Satyam fiasco while this study was conducted much earlier[2]. Further, this study is done in the light of new Companies Act, 2013 and revised Clause 49 of the Listing Agreement, 2014 by Securities and Exchange Board of India (SEBI). The present study extends this stream of literature by measuring independent director diligence at two levels: diligence of independent director in board meetings (board diligence) and diligence of independent directors in audit committee meetings (audit committee diligence). Therefore, this study evaluates the impact of board diligence and audit committee diligence on earnings management practices. We empirically test whether the higher diligence of independent directors will have a positive impact on the board's effectiveness, which will be reflected in the disclosure quality.

These research questions are examined based on data from Indian-listed firms. Regression tests are performed to evaluate the association between independent directors' diligence and discretionary accruals after controlling for the impact of other factors that may influence managerial decisions on discretionary accruals. The findings of this study verify that corporate boards with diligent independent directors are associated with lower discretionary accruals. Thus, results confirm our expectations that the diligence of independent directors plays an important role in improving corporate boards' performance in a business environment.

This study makes the following important contributions. First, it contributes by exploring the role of independent directors' diligence in restraining earnings management, particularly in an emerging economy like India which has been positioned by the Central Statistics Organisation and the International Monetary Fund as the fastest growing major

economy in the world[3]. Second, this study helps the investors in rational decision making by evaluating the reliability and usefulness of financial information reported by the firms, particularly in India wherein the private sector, majority of the companies are family-owned businesses having largest shareholder holding over 50 per cent. Third, the findings are relevant for policy makers worldwide, as it will lead towards policy formulation that is more specific and stringent about board diligence. Such policies will result in superior quality financial reporting.

The remainder of the paper is organised as follows: Section 2 presents the background and Section 3 discusses the literature review and hypotheses development. Section 4 discusses the sample selection and research methodology. The results are discussed in Section 5, and Section 6 contains study's conclusion and future implications.

2. Background

The corporate governance issues in the UK and USA arise due to the conflict between management and owners. However, in India, the governance issues are primarily the results of the conflict between dominant shareholders and minority shareholders[4]. India witnessed two large corporate scams, namely Satyam and Kingfisher in 2009 and 2012, respectively, which raised questions about the effectiveness of corporate governance and quality of reported earnings (Mathur, 2014). These corporate failures led to a change in the regulatory regime in the form of new Companies Act, 2013 and revised Clause 49 of the Listing Agreement, 2014 by SEBI.

These changes to the Companies Act and the Listing Agreement make the present study relevant to empirically test the usefulness of independent directors' diligence in checking earnings manipulation. The Clause 49 states that a minimum of four board meetings should be conducted in a year with a maximum time gap of four months between two successive meetings[5]. However, it does not mention any upper limit to board activity. It also mandates to maintain records for all board meetings including attendance of independent directors. This information has to be incorporated in the "report on corporate governance" and is to be part of the annual report of listed companies[6]. Amendment to Clause 49 of the Listing Agreement, in fact, encourages Indian firms to use sound corporate governance practices (Sarkar and Sarkar, 2012). This suggests that there is a need for examining the impact of corporate board effectiveness, especially in terms of independent directors' diligence, on the firms' earnings management practices.

3. Literature review and hypotheses

Corporate boards are combination of inside and outside directors. The interests of both these categories of directors might not be similar in certain circumstances as outlined by the agency theory (Luan and Tang, 2007). The interests of the inside directors are aligned with the firm's management while the outside or the independent directors have fiduciary responsibility to monitor the management on behalf of the shareholders (Hermalin and Weisbach, 2003). This conflict of interests necessitates active involvement of the independent directors so that they are able to perform their monitoring roles effectively. This argument finds its roots in the agency theory and is also supported by the transaction cost economies.

Many researchers have identified the monitoring role played by such independent directors in various contexts (Peasnell *et al.*, 2000; Klein, 2002; Xie *et al.*, 2003; Baxter and Cotter, 2009; Jaggi *et al.*, 2009; Kent *et al.*, 2010). Studies have highlighted that it is not only the composition and structure of the board but also its process that makes it an effective monitor (Vafeas, 1999; Adams *et al.*, 2008; Brick and Chidambaram, 2010; Masulis and Mobbs, 2014). Prior studies have also highlighted that busy independent directors are ineffective monitors.

3.1 Board independence and earnings management

Agency theory argues that independent directors provide effective monitoring of the corporate boards. They have a role in protecting shareholders from the opportunistic behaviour of the managers who may seek private gains (Kiel and Nicholson, 2003). Independent directors are known to enhance transparency and integrity of financial reporting. Consistent with this view, Clause 49 also recommends a minimum proportion of independent directors on the corporate boards in India.

Few studies have evaluated the impact of board independence on earnings management practices. In the context of the USA, Klein (2002) reported a negative association between board independence and earnings management. Xie *et al.* (2003) also found a similar relationship between board independence and earnings management. In the context of the UK, Peasnell *et al.* (2005) found board independence to be associated with superior financial reporting practices. In the case of Hong Kong, Jaggi *et al.* (2009) reported a negative association between board independence and earnings management. Therefore, the following hypothesis is tested:

- H1. There is no significant association between board independence, measured by the proportion of independent directors on the board, and earnings management, proxied by discretionary accruals.

3.2 Board diligence and earnings management

It is believed that a more active board is better for shareholders' interests because directors spend more time and energy on company affairs in an active board. An important aspect of corporate governance is how often the independent directors attend the board meetings because their attendance of board meeting will show their diligence and bring objectivity in the company affairs. If they rarely attend board meetings and do not participate in the boardroom discussions, their understanding of the company issues will be limited. So, because of this limitation such directors may not be in a position to monitor managerial behaviour and decisions effectively. It will also allow the board to exercise its discretion. Thus, corporate boards can only be effective when directors, particularly independent directors are committed to their role of advising and monitoring managers, attend the meetings regularly, and take part in the boards' discussions. If they fail to meet their corporate governance commitments, they will not be able to ensure a higher quality of financial reporting.

Limited studies have explored the importance of board diligence. Xie *et al.* (2003) argued that board that meets rarely may only have time for the signing of management plans and listening to presentations. They may not have time to focus on issues such as earnings management or financial statement in ensuring high quality and transparent reporting. Boards that meet often are more likely to perform their duties diligently and effectively. Diligent boards are also likely to increase oversight of the financial reporting process. They achieve this directly through the choice of the external auditor and indirectly through audit committee composition (Conger *et al.*, 1998; Vafeas, 1999).

Masulis and Mobbs (2014) have argued that the attendance record at the board meetings is a measure of directors' commitment towards their directorship responsibilities. A study by Chou *et al.* (2013) examined the association of directors' attendance and firm profitability, and reported that meeting attendance by board directors has a positive effect on the firm's profitability. Ghosh (2007) examined the association of board diligence with the financial performance of Indian nonfinancial firms. The study analysed data from more than 200 firms and found that board diligence had a positive effect on firm performance. Another study in the Indian context (Sarkar *et al.*, 2008) examined the association of various characteristics of the board of directors and

opportunistic earnings management. They found that board diligence, as measured by the attendance of independent directors on board meetings, impacted the firms' earnings management practices.

Based on the above discussion, it can be argued that board's diligence, measured in terms of the percentage of meetings that the independent board members attend, is expected to have a positive impact on the quality of financial reporting (e.g. Ghosh 2007; Sarkar *et al.*, 2008). If a greater number of directors regularly attend the board meeting, the quality of financial reports can be high. Diligence requires that board members actively participate in the board meetings and sincerely discharge their board responsibilities. We develop the following null hypothesis to test the association between reporting quality, proxied by discretionary accruals, and board diligence, reflected by the percentage of meetings an individual board member attends:

- H2.* There is no significant association between board diligence, measured by the average attendance of independent directors in board meetings in a year, and reporting quality, proxied by discretionary accruals.

3.3 Audit committee independence and earnings management

The audit committee is another mechanism that has a significant role in monitoring financial reporting. A number of studies have discussed the role of by audit committees as monitoring mechanism and maintaining the quality of financial reporting (Davidson *et al.*, 2005; Kent and Stewart, 2008; Rainsbury *et al.*, 2008).

Few studies have evaluated the impact of audit committee independence and earnings management. Studies suggest that audit committee independence restrains earnings management practices in various contexts (Klein, 2002; Kent *et al.*, 2010). Recently, Amar (2014), Sharma and Kuang (2014) and Kapoor and Goel (2017) have also found a significant association between audit committee independence and earnings management in France, New Zealand and India, respectively. Therefore, the following hypothesis is tested:

- H3.* There is no significant association between audit committee independence, measured by the proportion of independent directors on the audit committee, and earnings management, proxied by discretionary accruals.

3.4 Audit committee diligence and earnings management

The audit committee diligence is another important determinant of board characteristics which affects the quality of financial reporting. In a landmark study, DeZoort *et al.* (2002) described diligence as the process factor which is required to achieve audit committee effectiveness. It has been identified that there are multiple components to diligence but, researchers have generally measured it through the frequency of audit committee meetings because of unavailability of quantifiable or observable metrics (Raghunandan and Rama, 2007; Mishra and Malhotra, 2016). Mishra and Malhotra (2016) explored the impact of frequency of audit committee meeting on earnings management in the Indian context. Their study did not find any significant association between audit committee meetings and earnings management.

Numerous studies have highlighted the significance of diligent audit committees as measured by the attendance of independent directors (Ghosh, 2007; Sarkar *et al.*, 2008; Masulis and Mobbs, 2014; Chou *et al.*, 2013). These studies explored the importance of board diligence. They found that diligent boards lead to superior governance for the firm. This argument may be extended further to explore the directors' diligence in audit committee meetings. Therefore, this study evaluates the association of audit committee diligence as

measured by the percentage attendance of independent directors in the audit committee meetings with earnings management. Therefore, the following hypothesis is tested:

- H4. There is no significant association between audit committee diligence, measured by the average attendance of independent directors in audit committee meetings in a year, and reporting quality, proxied by discretionary accruals.

4. Sample selection and research methodology

4.1 Sample selection and data collection procedures

The sample selection was started with 500 largest Indian companies listed on Bombay Stock Exchange (BSE) on the basis of market capitalisation. These companies account for about 93 per cent of total market capitalisation at BSE. Banks and other financial institutions were excluded from the sample because of their distinct regulatory mechanisms. After removing the companies with incomplete data, the final sample comprised of 1,830 firm-year observations for 305 companies and six years (2007–2012). This sample represents more than 62 per cent of the total market capitalisation of BSE as on March 2013. Financial data were collected for eight years (2006–2013) to calculate the accrual measures. This period is best suited as it would help to identify the effects of pre- and post-global recession on the practice of earnings management in India. This period is also associated with greater variation in the GDP growth rate in India, which varied from a high of 9.57 per cent (2006–2007) to a low of 4.47 per cent (2012–2013) (Central Statistics Office, Government of India).

The financial data for analysis are obtained from the Prowess database created by the Centre for Monitoring the Indian Economy. It is broadly similar to the Compustat database of US firms. Prowess is being widely used for applied financial research in India (Ghosh, 2007; Sarkar *et al.*, 2008; Kapoor and Goel, 2017), particularly for firm-level analysis (Mukherjee and Ghosh, 2004). Data for governance variables are hand collected from published annual reports of the companies. Annual reports of each listed company contain a distinct report on corporate governance. According to the disclosures under Clause 49 of SEBI Act 1992, it is mandatory for listed companies to produce a “report of corporate governance” in their annual reports. The report on corporate governance clearly specifies various board characteristics for the respective financial year. The board-related data, which were not available in the corporate governance report, were hand collected from the annual reports of respective firms. Table I presents the industry classification of the sample.

4.2 Calculation of accruals

The benefit of reporting accruals-based earnings is that they are better indicator of economic performance in comparison to cash flows, but accruals may be subject to management discretion. Dechow and Dichev (2002) have developed an empirical model to determine accruals quality. They suggested that earnings quality is higher

S. No.	Industry	Representation in sample (%)
1	Manufacturing	61
2	Services	11
3	Trading	4
4	Industrial construction	6
5	Transport/Logistic services	6
6	Diversified	12

Table I.
Industry classification

when accruals are better associated with cash flows in the current, previous and following periods:

$$\Delta WC_t = \beta_0 + \beta_1 \times CFO_{t-1} + \beta_2 \times CFO_t + \beta_3 \times CFO_{t+1} + \varepsilon_t, \quad (1)$$

where ΔWC_t is change in working capital in current year over previous year. CFO_{t-1} is cash flow from operations in the previous year, CFO_t is cash flow from operations in the current year. CFO_{t+1} is cash flow from operations in the subsequent year. All variables are scaled by total assets. The standard deviation of the residual from the regression Equation (1) provides the firm specific measure of accruals quality. McNichols (2002) introduced a variation to the DD model by including change in sales and the size of property, plant and equipment as described by Jones (1991) model. Both McNichols (2002) and Francis *et al.* (2005) presented improved models by incorporating the variables from Jones (1991) into Dechow and Dichev (2002) model. The study would employ cash-based accrual model as suggested by Francis *et al.* (2005) instead of earnings-based accrual model. This model is considered more suitable as it not only modifies and expands the earnings-based model of Dechow and Dichev (2002), but it also presents a proxy for intentional errors. It allows the researcher to discuss “managerial choices” while measuring quality of accruals (Dechow *et al.*, 2010):

$$\Delta WC_{it} = \beta_0 + \beta_1 \times CFO_{it-1} + \beta_2 \times CFO_{it} + \beta_3 \times CFO_{it+1} + \beta_4 \times \Delta Sales_{it} + \beta_5 \times PPE_{it} + \varepsilon_{it}, \quad (2)$$

where $\Delta Sales_t$ is change in sales and PPE_t is gross property, plant and equipment. Standard deviation of the residual as modelled by DD might be influenced by prior changes. Therefore, the absolute value of the residuals will also be taken as a proxy for accruals quality which is consistent with Footnote 6 of Dechow and Dichev (2002). The absolute value of residual becomes the inverse measure of accruals quality as higher (lower) value denotes lower (higher) accruals quality.

4.3 Regression models

The study explores the relationship of earnings management with board activity and board diligence after controlling for the impact of other relevant variables in a panel data framework. Panel data include the same cross-section over a period of time. This can better detect effects that can otherwise not be observed in a pure cross-section or time series data (Gujarati and Sangeetha, 2007). Panel data suggest that individuals, companies and countries are heterogeneous and allow us to control for individual heterogeneity. Also, panel data provide more informative data, increased variability, higher degrees of freedom, less collinearity among variables and thus, increases the efficiency of the model (Baltagi 2008).

There are two common techniques to model panel data, i.e., fixed effect model (FEM) of regression and random effect regression model (REM). While FEM is based on the assumption, the unobserved effect (which becomes a part of residual) is correlated with the explanatory variables of the model, whereas REM assumes that the two are uncorrelated. In many cases, the panel data analysis is used to allow for this unobserved effect to be correlated with the explanatory variables. The ideal strategy used to determine the suitable technique for analysis between FEM and REM is the Hausman specification test (Hausman 1978). If the null hypothesis of Hausman test is rejected, the individual effects are considered to be fixed, else the effects would be random. The estimates of β s in such cases would be more efficient.

Board and audit committee are considered as complementary monitoring mechanisms. Therefore, the impact of independent director diligence through these monitoring mechanisms is tested employing separate regression models. The following models are

proposed to analyse the role of independent director diligence in constraining earnings management. Few other board-level and financial variables are included in the model to account for their probable effect.

Model 1:

$$\begin{aligned} \text{DAC}_{it} = & \beta_0 + \beta_1 \times \text{board_independence}_{it} + \beta_2 \times \text{board_diligence}_{it} \\ & + \beta_3 \times \text{board_size}_{it} + \beta_4 \times \text{board_activity}_{it} + \beta_5 \times \text{board_busyness}_{it} \\ & + \beta_6 \times \text{firm_age}_{it} + \beta_7 \times \text{lev}_{it} + \beta_8 \times \text{MVBV}_{it} + \beta_9 \times \text{firm_size}_{it} \\ & + \beta_{10} \times \text{profit}_{it} + \beta_{11} \times \text{abs_EPS}_{it} + \varepsilon_{it}. \end{aligned} \quad (3)$$

Model 2:

$$\begin{aligned} \text{DAC}_{it} = & \beta_0 + \beta_1 \times \text{ac_independence}_{it} + \beta_2 \times \text{ac_diligence}_{it} \\ & + \beta_3 \times \text{ac_size}_{it} + \beta_4 \times \text{board_independence}_{it} + \beta_5 \times \text{board_size}_{it} \\ & + \beta_6 \times \text{firm_age}_{it} + \beta_7 \times \text{lev}_{it} + \beta_8 \times \text{MVBV}_{it} + \beta_9 \times \text{firm_size}_{it} \\ & + \beta_{10} \times \text{profit}_{it} + \beta_{11} \times \text{abs_EPS}_{it} + \varepsilon_{it}, \end{aligned} \quad (4)$$

where DAC is measured by the absolute value of residual from Equation (2). It is an inverse measure of earnings quality and higher values of DAC reflect the lower quality of reported earnings. The main explanatory variables of Model 1 are board independence and board diligence. Board_independence reflects the independence of the board. It is measured as the proportion of independent directors to the total number of directors on the board. Board_diligence is another test variable in the study. It denotes the participation of independent directors in the board meetings and is measured as the percentage of board meetings attended by the independent directors on the board. Table AI presents the description of the variables of the study.

Three other board-level variables are also included in the Model 1 to isolate their probable impact on discretionary accruals. These are board_size, board_activity and board_busyness. The board_size is the number of directors on the board, board_activity is the frequency of board meetings conducted in a year and board_busyness is measured as the number of independent directors with a minimum of four directorships in public-listed companies.

Main explanatory variables for Model 2 are audit committee independence and audit committee diligence. Audit committee independence reflects the independence of the audit committee. It is measured as the proportion of independent directors to the total number of directors on the audit committee. Audit committee diligence is the other important variable. It denotes the participation of independent directors in the audit committee meetings and is measured as the percentage of audit committee meetings attended by the independent directors.

Three board-level variables are also included in the Model 2 to isolate their probable impact on discretionary accruals. These are ac_size, board_independence and board_size. The ac_size is total number of directors on the audit committee. The board_independence and board_size are defined in the same way as in Model 1.

Besides board-level variables, a number of financial variables are also included in the models to filter out effects on discretionary accruals. Absolute change in prior years' earnings and financial leverage of the firm have a positive association with earnings management while political costs as measured by firm size has a negative association (Warfield *et al.*, 1995; Dechow *et al.*, 1995; DeFond and Jiambalvo, 1994; Becker *et al.*, 1998; Dechow and Dichev, 1996; Bartov *et al.*, 2000). Market-to-book ratio and firm size have been found to be associated with board independence (Klein, 2002). Similarly, studies have showed that firm profitability is associated with earnings management (Dechow *et al.*, 1995; Kasznik, 1999). Therefore, financial control variables are included in the analysis.

These include firm age, financial leverage, proportion of market-to-book value, firm size, profitability and absolute change in EPS. Firm_age is the number of years of operations of the firm. Leverage is the financial leverage. MVBV is the ratio of market value to book value. firm_size measures size of the firm measured as log of total assets. Profit is a measure of firm profitability and is measured as EBITDA as a percentage of sales. abs_eps is the absolute change in earnings per share. Subscripts i and t denote firm and time period.

An examination of the association of accruals quality with board-level governance characteristics might be faced with the problem of endogeneity. This might arise when the relationship being studied is affected by another variable (which is not explicitly included in the regression function). Previous research works have expressed concerns about this issue. In such cases, the effect of the unobserved variable is captured by the residual term, and thus, it becomes correlated with the independent variable thereby biasing the estimates. Therefore, research methodology should be so designed that it is able to capture the effect of probable endogenous variable and estimation is efficient and unbiased.

This study is based on a panel data framework. Panel data analysis is considered superior as it not only enriches the data but also controls for endogeneity in the variables making it robust. The FEM estimation method of panel data assumes a correlation between explanatory variables and unobserved effects that are captured through the residual. Therefore, if the panel data are modelled through FEM, it controls for time-invariant endogeneity.

5. Results and discussion

5.1 Descriptive Statistics

Table II presents the descriptive statistics on the variables.

Mean value of board independence is 48.7 per cent with a minimum and maximum values of 0 and 87 per cent, respectively. Board diligence also has a large range. It moves from a minimum of 0 per cent to a maximum 100 per cent with the mean (standard deviation) 77 per cent (15.9 per cent). Board size ranges from a minimum of 3 directors on the board to a maximum of 22 directors with a mean (standard deviation) of 9.7 (2.83). Board activity ranges from a minimum of 2 board meetings in a year to 36 meetings in a year with a mean (standard deviation) of 6.46 (2.8). Board busyness ranges from zero to eight busy directors on the board, with mean (standard deviation) of 2.7 (1.62). This suggests that around three directors in every board are part of at least three other corporate boards.

Audit committee independence varies from a minimum of 0–100 per cent with a mean (standard deviation) of 81.1 per cent (0.18). Audit committee diligence varies from

Variable	Mean	SD	Min.	Max.
Board independence (%)	48.7	12.75	0	87
Board diligence (%)	77.77	15.99	0	100
AC Independence (%)	81.1	0.18	0	100
AC diligence (%)	86	0.15	0	100
Board size	9.7	2.83	3	22
Board activity	6.46	2.80	2	36
Board busyness	4.64	2.72	0	16.5
AC size	3.8	0.86	2	9
Firm age	38	24.45	2	141
Leverage	0.81	0.132	0.24	0.99
Market-to-book value	105.85	186.85	0.75	3,141.5
Total assets	84,993.5	222,767	1,096.2	29,52,250
Profitability	19.3	16.21	-81.35	93.67
Absolute Δ EPS	13.02	37.225	0	976.98
Discretionary accruals (%)	2.82	0.021	0.003	27.82

Table II.
Descriptive statistics

0 to 100 per cent with a mean (standard deviation) of 86 per cent (0.15). Audit committee size ranges from a minimum of two directors to maximum of nine with mean (standard deviation) of 3.8 (0.86).

The average age of the sample firms is 38 years. Its variation is also large with the youngest firm being only 2 years old while the oldest has been in existence for 141 years. Leverage ranges from 24 to 99 per cent with a mean of 81 per cent. This is in accordance with earlier studies which identify lower levels of leverage in Indian companies. The ratio of market-to-book value ranges from 0.75 to 3,141.5 with a mean and standard deviation of 105.85 and 186.85, respectively. Since the study is focussed on large Indian companies, the average value of total assets is INR 84,993.5m.

Table III presents the cross-correlation matrix of the variables. As evident from the table, none of the variable pair has a high degree of correlation. The correlation between board independence and audit committee independence is 0.51 and that of between board diligence and audit committee diligence is 0.57. Both of these pairwise correlations are significant at the 5 per cent level of significance. This suggests that two separate models should be tested to evaluate the role of board and audit committee characteristics in restraining earnings management practices. All the remaining variable pairs have a low degree of correlation.

5.2 Regression results

This study evaluates the role of independent directors in restraining earnings management practices in the Indian context. Analysis of data was conducted within the panel data framework. There are two common estimation techniques for panel data analysis: FEM and random effect model. Formal test to evaluate the suitability of the estimation technique is the Hausman specification test. This test was run separately for each model. Results of Hausman specification test are also reported in Table IV. The test indicated that the FEM technique was preferable over the REM technique in both models. If data are modelled using FEM, it is able to control for time-invariant endogeneity. Also, if a study is conducted on a diverse data, there are chances of heteroskedasticity (Baltagi, 2008). Therefore, White's test was conducted and it indicated the presence of heteroskedasticity. The models were adjusted using cluster corrected standard errors.

Regression tests were conducted to evaluate the role of independent directors in restraining discretionary component of accruals in a panel data framework. The regression results are reported in Table IV. Two models were tested to find the role of independent directors in boards and audit committees, respectively. Model 1 evaluated the impact of board independence and diligence on earnings management. Results of the analysis indicate that board independence is negatively associated with earnings management. However, this relationship is not statistically significant even at the 10 per cent level of significance. This supports the null hypothesis that there is no significant association between board independence and earnings management. This is in accordance with similar studies (Sarkar *et al.*, 2008). The results also indicate that board diligence is negatively associated with earnings management and the coefficient is significant at the 10 per cent level of significance. Thus, *H2* is rejected. This suggests that diligent boards are effective in containing earnings management. This finding supports prior literature which suggests that diligent boards may create value for firms (Ghosh, 2007; Sarkar *et al.*, 2008; Chou *et al.*, 2013; Masulis and Mobbs, 2014).

Model 2 evaluates the role of audit committee independence and diligence in restraining earnings management. Results of the analysis indicate that the association between audit committee independence and discretionary accruals is negative and significant at the 5 per cent level of significance. Thus, *H3* is rejected. This suggests that the independent directors in the audit committees are able monitors of the board action particularly in the context of reporting quality. It reemphasises the important role of independent directors in the

Table III.
Cross-correlation
matrix

S.N.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Board ind. (%)	1.00													
2	Board diligence (%)	0.04	1.00												
3	AC ind. (%)	0.51*	0.14*	1.00											
4	AC diligence (%)	-0.01*	0.57*	0.08*	1.00										
5	Board size	-0.15	-0.05	0.03	0.24	1.00									
6	Board activity	-0.01	-0.19	0.03	-0.03	0.04	1.00								
7	Board busyness	0.01	0.08*	0.01	0.05*	0.02	-0.16	1.00							
8	AC size	0.05*	-0.02	-0.20*	0.04*	0.34	-0.02	-0.06*	1.00						
9	Firm age	0.03	0.06*	0.08*	0.15	0.05	-0.07*	0.12	-0.03	1.00					
10	Leverage	0.15*	-0.04	0.05*	0.00*	0.02	0.00	-0.04	0.00	-0.07*	1.00				
11	Market-to-book value	-0.02	0.07*	0.07*	0.05	0.08	-0.01	0.01	-0.03	0.02	-0.09	1.00			
12	Total assets	-0.06	0.07*	0.06*	0.31	0.31	0.24	-0.05*	0.05	0.03	-0.01	0.04*	1.00		
13	Profitability	0.05	0.05	0.06	0.31	0.06	0.04	-0.15	0.08	-0.11	0.41	0.04*	0.03*	1.00	
14	Absolute ΔEPS	0.00	0.07	0.01	-0.02	0.02	0.00	-0.02	-0.01	0.06	-0.03	0.21*	0.04	0.02	1.00

Note: *Significant at 5 per cent significance level

Table IV.
Results of regression
with FEM

Explanatory Var.	Sign	Model 1		Model 2	
		Coefficient	t-Statistic	Coefficient	t-Statistic
Board_ind.	-	0.000072	-0.20	0.000015	-0.04
Board diligence	-	0.0214927***	-1.67		
Board_size	+	0.000544	0.28	0.000024	0.01
Board activity	+	0.0032091*	3.94		
Board busyness	-	0.0019567	-1.47		
AC_dil	-			0.036029**	-1.90
AC_ind	-			0.154847**	-2.10
AC_size	-			0.034386**	-2.18
Firm age	-	0.000693	-0.33	0.000906	-0.43
Leverage	-	0.383753*	-8.52	0.387837*	-8.61
MVBV	-	0.000017	-0.83	0.000016	-0.79
Firm size	+	0.012566	1.30	0.012906	1.34
Profitability	-	0.000883*	-2.54	0.000889*	-2.57
Absolute Δ EPS	-	0.00007	-0.91	0.000076	-0.98
Constant	+	0.076013	0.86	0.065924	0.75
<i>n</i>		1,830		1,830	
<i>F</i> -stat (prob)		2.19 (0.00)		7.79 (0.00)	
Hausman χ^2 (prob.)		27.70 (0.00)		61.4 (0.00)	

Notes: *, **, ***Significant at 1, 5 and 10 per cent levels, respectively

audit committees in maintaining the governance standards of large corporations. Audit committee diligence is another explanatory variable of the study. The coefficient of this variable is also negative and statistically significant at the 5 per cent level of significance. Thus, H_4 is rejected. This is an important finding as it suggests that audit committees where the independent directors are regular and participate in meetings are able to effectively monitor the earnings management practices of the firm. This strengthens the argument brought forward by earlier studies like Masulis and Mobbs (2014) which argue that attendance is a measure of commitment of the independent directors towards his directorship responsibilities. This finding supports prior studies which argue that the higher attendance of independent directors creates value for the firm (Ghosh, 2007; Sarkar *et al.*, 2008).

Few other board-level variables were included in the analysis to control their probable impact on earnings management. The coefficient of board size is positive suggesting that larger corporate boards are associated with lower quality of financial reporting, though this is not statistically significant. In other words, larger boards may not function effectively or preserve high-level earnings quality. This is in accordance with Jensen (1993) that argued for smaller boards. The coefficient of board activity is positive and statistically significant at less than 1 per cent level of significance. This suggests that board activity is associated with earnings management in the Indian context. Higher frequency of board meeting is associated with higher discretionary accruals which is an inverse measure of reporting quality. This finding follows the argument present by Vafeas (1999) that firms may react to poor performance and challenging business circumstances by increasing the frequency of board meetings.

The coefficient of board busyness is negative but not significant. This finding is consistent with prior studies (Core *et al.*, 1999; Fich and Shivdasani, 2006; Sarkar *et al.*, 2008; Field *et al.*, 2013) which highlight the inability of busy directors in fulfilling their monitoring responsibilities. Field *et al.* (2013) found that busy boards are detrimental to large organisations. They concluded that even if busy directors might offer quality advice, they do not function as effective monitors of management.

The coefficient of audit committee size is negative and statistically significant at the 5 per cent level of significance. It suggests that size of the audit committee is associated with earnings management in the Indian context. Larger audit committees are effective monitors

of the financial reporting process and thus, are associated with superior quality of financial reporting. This is in accordance with prior studies in different contexts like Choi *et al.* (2004), Baxter and Cotter (2009) and Kent *et al.* (2010). This suggests that larger audit committees generate value for firms not only in developed economies like the USA and Australia but also in developing economy like India.

Several financial variables were also included in the model to control for their probable effects on earnings management. Firm age is negatively associated with discretionary accruals signalling that well-established firm have fewer incidences of discretionary accruals. The reporting quality for such firms is therefore better. Companies with a higher market-to-book value also have a higher incidence of discretionary accruals. The coefficient of leverage is negative suggesting that highly leveraged firms do not indulge in earnings management. Firm size is also negatively associated with discretionary accruals suggesting that large firms have better quality of reporting. Absolute change in EPS is positively associated with discretionary accruals.

6. Conclusion and implications for future research

6.1 Conclusion

This study evaluates the role of independent directors for their diligence in restraining earnings management practices in India. It finds that audit committee independence contains earnings management in Indian firms. These findings support the regulations that demand high independence of audit committees in Indian-listed companies. The study also finds that diligence of independent directors in board and audit committee meetings lead to superior quality of financial reporting.

The results of this study are consistent with prior research on quality of earnings (Goel, 2014). They indicate that both board diligence and audit committee have a significant impact on earnings management practices of family dominated Indian corporations. Thus, it can be concluded that the regulations guiding corporations about governance mechanisms should be able to address country and shareholder dominated specific issues. Studies have proved that enforcement of board-level corporate governance reforms, without consideration of country-specific cultural and legal environment limits its effects (Machuga and Teitel, 2009).

The findings of this study are important to regulators and policy makers at a global level as it brings forward an important dimension of board quality that needs to be made stringent. It highlights the relevance of board activity for checking earnings management practices for protecting shareholders' interests. Previous research has documented the impact of board-related reforms on investor confidence (Lee and Shailer, 2008). If the policy framework on corporate governance explicitly encourages active participation of independent directors in board processes, it would lead to greater improvement in financial reporting. This can reduce asymmetry of information in capital market and protect investors who are ultimately lenders of capital for these companies, and may create value for the targeted firms as well.

This study is important for practitioners with a vested interest either in Indian companies or in others that work in a similar environment. Attempts can be made to improve the quality of financial reporting by monitoring the participation of independent directors in board and audit committee meetings.

6.2 Implications for future research

Though the sample for this study represents more than 62 per cent of the total market capitalisation of BSE for completeness of data, still the size can be increased for future study. The present study has not considered banks and financial institutions due to their distinct regulatory mechanisms.

The time period in the study is of eight years (2006–2013) to calculate the accrual quality measures. This period is best suited to identify the effects of pre- and post-global recession

on the practice of earnings management in India. Researchers may like to select a different time period based on their perspective. For the present study, we measured the firm-level governance by board activity and diligence variables. The scope of these variables can be adjusted according to the nature of study on earnings management. All these possible areas will definitely add to the literature and strengthen it further.

The findings of this study are important to international entities which have investment and other business motivations for India. Such firms seek superior quality of financial reporting to make informed decisions. The findings of this study are significant not only for family-owned organisations that function in India but also for other companies that are based in economies with relatively mature corporate governance mechanisms as countries like India, the USA and Australia seem to have borrowed the corporate governance practices from UK Company Law. Similar efforts in other countries might be rewarding in controlling earnings management and may increase reliability and transparency of financial reports to promote economic efficiency.

Notes

1. www.ey.com/in/en/services/assurance/fraud-investigation—dispute-services/corporate-governance—role-of-independent-directors# (accessed 26 December 2016).
2. Satyam Computer Services Limited was an Indian private limited company that dealt in software development and consultancy services. On 7 January 2009, the Chairman Ramalinga Raju confessed an accounting manipulation of Rs 7,855 crores.
3. www.livemint.com/Opinion/ODKlk4hpJ9zbePQM3eD2OI/India-in-the-global-economy.html, 10 March 2016 (accessed 15 December 2016).
4. Varma Ram, Jayanth, Corporate Governance in India: Disciplining the Dominant Shareholder, www.iimahd.ernet.in/~jrvarma/papers/iimbr9-4.pdf
5. www.nseindia.com/content/equities/SEBI_circ_15092014.pdf
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Table AI.
Description of
variables**Appendix**

Variable Name	Explanation
Board _ind.	Reflects the independence of the board. It is measured as the proportion of independent directors to the total number of directors on the board
Board diligence	Denotes the participation of independent directors in the board meetings and is measured as the percentage of board meetings attended by the independent directors on the board
Board_size	The number of directors on the board
Board activity	The frequency of board meetings conducted in a year
Board busyness	Measured as the number of independent directors with a minimum of four directorships in public-listed companies
AC_dil	Denotes the participation of independent directors in the audit committee meetings and is measured as the percentage of audit committee meetings attended by the independent directors
AC_ind	Reflects the independence of the audit committee. It is measured as the proportion of independent directors to the total number of directors on the audit committee
AC_size	Total number of directors on the audit committee
Firm age	Measured by the number of years of incorporation of the firm
Leverage	Financial leverage of the firm
MVBV	Ratio of market value to book value
Firm size	Measures size of the firm measured as log of total assets
Profitability	Measure of firm profitability and is measured as EBITDA as a percentage of sales
Absolute Δ EPS	Measures absolute change in prior years' earnings
DAC	It is measured by the absolute value of residual from Equation (2). It is an inverse measure of earnings quality

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