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IMPACT OF CORPORATE GOVERNANCE ON EARNINGS MANAGEMENT: LARGE SAMPLE EVIDENCE FROM INDIA

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ABSTRACT

The central point of this examination is to research the effect of corporate governance on earning management practices in India. Its results, if proved significant, can thereon be applied to curb earnings management. We utilized random-effect point estimates on 1613 non-Finance organizations working in the Indian subcontinent. The data pans from 2004 till 2018. Corporate governance has been evaluated on the basis of four of its divergent practices (board size, CEO–chair duality, managerial ownership, and audit committee independence) while discretionary accruals have been utilized as an intermediary for estimating malpractices in the income. This has been accomplished by employing the modified Jones model (Dechow *et al.*, 1995) to obtain the results. The empirical findings are in accordance with the concept of corporate governance. CEO-chair duality is significantly connected with practices of earnings management and is thus, noteworthy. However, one of the corporate administration factors, board size, is found irrelevantly identified with earnings manipulation. The examination enhances the current writings on the subject matter; that there is a negative relationship with the two major areas of the study, namely, corporate governance and earnings manipulation. The investigation accords explicitly by confirming that in emerging nations, corporate administration must have a negative impact on the issue of earnings manipulation. The importance of the research is enhanced by the prevalence of the, so called, 'interest war' among the minority and controlling shareholder(s) than between the executives and proprietors, in developing countries like India.

Contribution/ Originality: This study contributes in the existing literature by expanding the research to a large sample over a period of 14 years. Further, the research is based on recent data and is focused on Indian economy, which is uniquely characterized largely by family controlled businesses and interest war.

1. INTRODUCTION

As of late, a significant push of changes in governance has made the management teams of public firms more aware of such practices. This has brought fundamental and functional changes in organization costs. One indication of such change is generally perceived in the writing as "earnings management," whereby the financial statements of an organization are influenced for personal benefits (Klein, 2002). Corporate administration practices are prevalent all over the world. Manipulation of accounts underscores the responsibility of the board to ensure that profit figures reflect the true image about the performance of the firm (Peasnell *et al.*, 2005). The facts confirm that corporate administration has caught more prominent consideration after the contemporary outrages of corporate goliaths like Enron and WorldCom. Its need stimulated with the detachment of the two stakeholders (management and shareholders) that brought about agency problem. Jensen and Meckling (1976) presented the agency problem

hypothesis. It expresses that the rift between the management and the shareholders which leads to diversion of the interests of both. Thus the obligation of checking administrative choices falls on the administration framework to ensure the investors' benefits (Fama and Jensen, 1983). Despite that, in developing markets such issues are not between the administrators (the management) and proprietors (the ownership) (Berle and Means, 1932) rather they are between the minority proprietors and controlling proprietors (Shleifer and Vishny, 1997).

The aim of the paper is to observationally investigate the association between corporate governance attributes and earnings management in one of the fastest growing democracies in the world, India. An in-depth study on the current writings about the capacity of the firm (majorly, the board) in managing income uncovers that a lot of it can be traced back to the agency problem in enterprises predominant in mature nations. However, there is limited research available on the same for the developing nations. Nevertheless, cross-country proof manifests that the problem of clouding a company's actual financial performance, which Bhattacharya *et al.* (2003) called "earnings opacity," is more in rising economies contrasted to that in the mature economies. The abovementioned observation is in line with the ongoing proof, according to which, within proprietors in developing nations, that are described by frail lawful establishments along with feeble investor assurance, find themselves in a situation where they may remove non-public advantages of benchmark and take part in earnings manipulation with the intention of disguising the firm's genuine budgetary situation from pariahs (Leuz *et al.* (2003); Haw *et al.* (2004)). Appropriately, such examinations feature the requirement for viable administration components.

Both the concerned topics (i.e., corporate administration and earnings manipulation) are vital. The two give an assurance to various gatherings. Corporate administration covers a colossal arrangement of partners, including investors, minority investors, providers, workers, the board, society, government, and so on, and serves the premiums of every one of these partners. Then again, earnings manipulation shows its benevolent characteristic just to administrators and gives them the chance to control financial data as indicated by their own wants. In emerging nations like India a couple of rich families have the control of the enterprise. Such possession structures leads to the existence of the agency problem (on account of clashing interests) among various partners. As every partner views his/ her selfish gains from organization, consequently, everybody who is in the position of influencing the firm, attempts to exploit it for one's very own benefit. Profit manipulation instrument might be an appropriate example wherein the shareholders utilize their circumspection and oversee profit to achieve an ideal level. Corporate administration is accepted to oblige such practices. Liu and Lu (2007) proposed that corporate governance is fundamentally connected to manipulation of financial records, and good corporate governance might overwhelm the agency problem rehearses.

Earlier investigations on corporate governance and earnings management was derived for the most part from developed nations like the UK, Canada or the US (counting (Beasley, 1996; Xie *et al.*, 2003; Park and Shin, 2004; Peasnell *et al.*, 2005)) when contrasted with a minimal number of papers on emerging nations like India. This examination centers around researching the effect of corporate administration application on the exploitation of accounting loopholes commencing from 2004-2018 for an example of 1613 non-finance companies operating in the Indian subcontinent. So as to evaluate corporate administration, certain attributes have been considered, specifically, audit committee independence, board size, CEO–chair duality, and managerial ownership. Additionally, for quantifying manipulation of the earnings, the investigation utilizes discretionary accruals as an intermediary. Discretionary accruals are acclimation to incomes dependent on abstract decisions by administrators and fill in as an intermediary for estimating the level of manipulation if accounts done by an organization (Healy and Wahlen, 1999).

Firm valuation and productive working of the markets have significant ramifications due to standard of reported accounting data. The mispricing of primary equity offerings because of accruals management is a case of how the quality of earnings can affect market efficiency (Teoh *et al.* (1998)). Furthermore, accounting data, utilized for contracting decisions, plays a significant role in governance. Poor quality of earnings combined with weak governance mechanisms can unfavorably influence the dependability of accounting statements for investors, debilitate the connection between increment transaction costs in the capital market, earnings and firm valuation. Relation between expansion in earnings opacity and reduction of trading volume in the stock market is found by cross-country proof (Bhattacharya *et al.* (2003)) a decline in foreign direct investment, and lessening in the capacity of entrepreneurs to get the capital, all of which decreases the efficiency of financial markets (Kurtzman *et al.* (2004)). It is in reality shown by East Asian Crisis how low accounting disclosure standards and feeble judicial organizations were key factors in aggravating the breakdown of the stock market of these nations (Johnson *et al.* (2000); Mitton (2002)). For a rising economy like India, both the contracting job and valuation of accounting information have significant ramifications. Seeing how the nature of such data is influenced by a company's board qualities is going to be advantageous for regulators as well as investors.

Notwithstanding the well known insight of the existence of earnings management in a nation, it is "astoundingly troublesome" to convincingly report its existence for researchers (Healy and Wahlen, 1999). In such a manner India is no special case, where as of not long ago, there has not been much by method of publicly recorded instances of earnings management by Indian companies. This is borne out by the ongoing instances of fraud and manipulation of earnings that have been uncovered by a government agency in India, set up in 2003 to research genuine financial fraud. At the end, nation-level assessments from some ongoing empirical studies additionally recommend that companies in India position very high in earnings management proxies contrast to those in developed markets like the United States.

Using a sample of 6987 firm-year observations representing 1613 large Non-Finance companies in India from 2004 to 2018, we investigate the association between earnings management and corporate governance along the four measurements stated earlier. Initially, as surviving investigations utilizing developed market information, we look at whether independent audit committees is related with fewer cases of earnings management. Second, we broaden the existing literature by investigating how attributes that proxy for board "size" is associated with earnings management. Thirdly, we break down the impact of CEO-Chair duality on earnings management. Fourthly, we look at the connection between managerial ownership and earnings management in a company.

In our investigation, audit committee independence, estimated in terms of independent directors as a percentage of total number of directors in the audit committee has insignificant relation with earnings management. However, we find that managerial ownership is positively and significantly related to earnings management. As for CEO-chair duality, our outcomes demonstrate a positive and significant relationship with earnings management. Additionally, we find that board size is insignificantly related to earnings management. These outcomes are strong to different substitute measures of management of earnings as well as alternative details of control variables, estimating methodology, and the impact of extraordinary observations.

2. REVIEW OF LITERATURE

There are various confirmations on the relationship between corporate administration practices and manipulation of company financials. Following are some noticeable investigations with regard to this:

Xie *et al.* (2003) studied the job of the directorate, the audit committee and the executive committee in anticipating and mitigating manipulation of earnings. Post inspecting the relations employing a collection of 282 firm-year impressions of S&P 500 index companies, they inferred that profit management is less likely to happen or happens less regularly in organizations whose management includes greater external autonomous directors as well as directors with experience of working in corporates. Research further recommended that the level of manipulation in financials is related to the structure of the audit committee independence (and to a smaller degree the official board of trustees) and therefore might empower a council to depict improved working in it's oversight limit.

Shen and Chih (2007) examined the impact of governance measures on smoothing of financials in Asia's emerging markets. The results suggest that corporates with strong administrative policies are inclined to reflect smaller degree of profit management. It also displayed that there exists a size-effect for earnings manipulation, this means that bigger companies are more likely to engage in profit smoothing, but strong governance in such corporates might normally reduce the impact. Further results of the paper show that companies with greater growth (lesser profit yield) are likely to incorporate profit management, but strong administrative measures can reduce the impact. Further, corporates in robust anti-director rights economies are more likely to portray earnings management to a more significant extent. It also states that there exists a drastic point of variation for effect of leverage, i.e. in the case where the governance index is substantial, effect of leverage exists, whereas otherwise reverse effect is seen for leverage. It reflects that a greatly levered company with poor governance is more likely to be inspected closely and thus will find it more difficult to trick the public by manipulating financials.

Liu and Lu (2007) examined the connection among Corporate Governance and Earnings Management in publicly trading corporates in China by incorporating a tunnelling outlook. The factual research strongly recommended that disputes of majority Stockholders with minority investors represent a substantial part of profit smoothing in China's public companies.

Many studies have established that high standards of administrative policies have a remarkable influence on reducing profit smoothing. Cadbury (1992) showed the importance of independence of the board as a measure of effective corporate governance, which was restated by Fama and Jensen (1983) and Shleifer and Vishny (1997) through agency theory and by Beasley (1996) and Dechow *et al.* (1996) through violation of regulations. On the other hand, the Blue Ribbon Committee used independence of audit committee as a measure. Many other researchers have used audit committee independence to study the relation. Another measure of corporate governance is how many directors does the board of a company have (Toronto Stock Exchange (TSE) Committee on Corporate Govemance in Cemada, 1994). The two perspectives on the effect of board size are: 1) A bigger board has a lower probability of functioning successfully and is convenient for the CEO to manage (Jensen, 1993). A bigger board facilitates improved environmental connect as well as greater skill diversification (Dalton *et al.*, 1999). Hence, due to lack of consensus, it is important to check the direction of the relation among profit smoothing and governance measures in corporates.

Klein (2002) conducted empirical research on 692 listed US firm years to examine if board features and audit committee independence are related to any manipulation in financials. Through the examination, he built up an inverse connection of board or review advisory group autonomy with profit smoothing. Park and Shin (2004) based their study on 539 firm years in Canada to study the effect of board composition on the level of profit smoothing for a period from 1991 to 1997. However, they did not find any significant base to the relationship. These results contradicted the common beliefs and research results conducted in the UK and the USA.

Agrawal and Chadha (2005) empirically investigated the existence of a relationship between the likelihood of a company managing earnings and its corporate governance mechanisms. They established that audit committee independence and board composition do not have any relationship with the probability of restatement. They also found that the likelihood of this is substantially less in corporates that have an autonomous financial professional as a part of the board or audit committees.

Chair and CEO duality composes a significant feature of the directors and therefore governance measures. Academic papers (including (Fama and Jensen, 1983; Jensen, 1993)) reports, and publications by various regulatory councils and organizations have showed that the role of CEO and Chairman should not be designated to one individual to minimize earnings manipulation practices. The chair has the responsibility of defining the objectives for meetings of directors and reviewing these meetings as well as nominating executives and monitoring them. For corporates where CEO-Chair Duality exists, the likelihood of facing accounting implementation decisions by the authorities is higher for GAAP violations (Dechow *et al.*, 1996). Research pertaining to CEO– chair duality recommends a direct relationship of CEO–chair duality with manipulation of financials.

The research pertaining to managerial ownership portrays conflicting results. These investigations may be segregated into 2 parts following 2 varied perspectives to managerial ownership. One method is 'entrenchment effect' of stockholdings by managers (seen in scenarios when the executives and stockholder opinions are not completely similar or aligned), while the alternative method is the 'incentive alignment effect' of ownership of managers (seen in scenarios where the opinions of given parties are completely in alignment).

3. HYPOTHESIS DEVELOPMENT

We developed four hypotheses to study the connection between corporate governance and earnings management. In particular, we recognize four significant attributes of the former and analyze their consequences for the latter. The measures mulled over are Audit Committee Independence, Board Size, Chair-CEO duality, and Managerial Ownership (independent variables) while, and earnings management (discretionary accruals) represents the response variable of this examination.

3.1. Board Size

As per TSE (1994) Committee on Corporate Governance number of board individuals is a significant element impacting the board viability. Despite that, the past research gives blended proof on the course of the relationship between the size of the board and board viability. For instance, a greater board for the most part works ineffectually and is simpler for the CEO to control (Jensen, 1993). In opposition to this, Dalton *et al.* (1999) expressed that bigger boards are described by higher skill-levels and better natural connections. Moreover, there is a likewise blending in the writings concerning the relationship between board size and quality of financial statements. Beasley (1996) expressed that board size and monetary detailing frauds are emphatically connected with one another, showing that organizations with numerous chiefs on their board will encounter more misreporting in their fiscal summaries.

Yermack (1996) and Eisenberg *et al.* (1998) clarify the relationship between smaller boards and better firm execution. In any case, Dalton *et al.* (1999) archive a direct and critical connection between board size and financial performance, in a meta-investigation of 131 diverse examination tests with a consolidated sample size of 20,620 observations. Abbott *et al.* (2004) revealed no connection between board size and fiscal summary genuineness.

H1: There exists a dependence between board size and earnings management.

3.2. Audit Committee Independence

Peasnell *et al.* (2005) contemplated and found an indirect association between the impact of unrelated executives and window-dressing, which means an expansion in the number of outside executives on the board will prompt a diminishing in the discretionary accruals by the management. Fakhfakh and Nasfi (2012) analyzed acquiring companies and the examination found an indirect relationship between board independence, nature of the evaluators of mergers and acquisitions and discretionary accruals. In another investigation on review council quality and earnings management, Klein (2002) found an indirect relationship between the two variables, demonstrating that an expansion in review panel freedom is followed by a decrease in profits manipulation practices, along with a reduction of review board autonomy leading to the same to be more than acceptable level.

In a comparative report by Bédard *et al.* (2004) where all US organizations were separated into 2 broad groups: the first group containing organizations that represent a moderately lesser-than-average inclusion in profits manipulation and the second group including organizations that represents a generally more-than-average inclusion practices of the same, the authors found that organizations in which the review advisory group was completely autonomous, high level of discretionary accruals was unimportant along these lines indicating an indirect relationship between review council autonomy and manipulation of the accounts.

H2: There is an indirect association between the audit committee independence and earnings management.

3.3. Managerial Ownership

There are two ways to deal with examination of the impact of managerial ownership on earnings management. Be that as it may, the two suggestions infer various ends.

One methodology considers the 'entrenchment effect' of managerial ownership (that is a dissimilarity in the opinions of the managers and the shareholders). The other studies the 'incentive alignment effect' of managerial ownership (that is, a union of the opinions of the managers and the shareholders).

As per the entrenchment effect, the managers who hold stocks have a motivating force to wrongly employ the power and information to fulfill their very own personal stakes. This may come at the cost of minority shareholders. The researchers - Fama and Jensen (1983); Weisbach (1988) and Denis and McConnell (2003) - stated the same saying that if there is a divergence in the interests of the shareholders and managers, the latter pursue their own

interests. Hence, Healy (1985); Holthausen *et al.* (1995); Guidry *et al.* (1999) and Cheng and Warfield (2005) studied that, to maximize their own wealth and achieve their own personal objectives, CEOs persuade managers to manage earnings. Yang *et al.* (2008) presented by another significant reason behind the opportunistic behavior displayed by managers. According to them, organizations with stockholding managers experience more earnings management since by management of earnings an increase in the stock prices and hence their share value could be done by managers. Al-Fayoumi *et al.* (2010) found that earnings manipulation and insider ownership are directly related, and this association is profound. Proponents of this view (Morck *et al.*, 1988; Cheng and Warfield, 2005; Mitani, 2010) argued that greater ownership provides managers the opportunity to manipulate earnings.

As indicated by the 'incentive alignment effect', when managers possess stock in an organization, this stock holding helps other stockholders and managers in adjusting their interests and so a decline in motivation for management of earnings is anticipated. Studies supporting this angle found a negative relationship between managerial ownership and earnings management (Dhaliwal *et al.*, 1982; Warfield *et al.*, 1995; Gul *et al.*, 2003; Ebrahim, 2007; Ali *et al.*, 2008; Banderlipe, 2009; Alves, 2012).

H3: There is a relationship between managerial ownership and earnings management.

3.4. Chair and CEO Duality

To survey the nature of earnings reported, CEO duality is strongly considered since it plays a major role in limiting the probability of accounting enforcement. Strong proof has been provided by the empirical research in corporate governance, demonstrating that separation between CEO and chairman roles is favored as it improves the effectiveness of the board's checking capacity. It has been contended by Chau and Gray (2010) that a chairman who is autonomous has the opportunity to deal with an organization without constraint as he possesses a great amount of power and authority. Fama and Jensen (1983) suggested allocation of roles of Chairman and CEO to different people. Likewise, no job duality in corporations is suggested, in order to guarantee a stability of power and authority which will lead toward additional independent boards by the Cadbury Report.

A positive and significant association between Chairman's duality and earnings management is shown by the study conducted by Jouber and Fakhfakh (2014) in Europe for the period of 2004 to 2008. The outcome shows a positive and significant association among CEO/Chairman duality and earnings management in a study conducted by Roodposhti and Chashmi (2011) looking at the effect of internal and external mechanisms on earnings management for the Tehran quoted securities market between the periods of 2004 to 2008. Uwuigbe *et al.* (2014) considered the effect of governance mechanisms on earnings management and the outcome demonstrated a positive and significant effect of CEO's dualities on earnings management. Soliman and Ragab (2014) also reported positive and significant relationship between CEO duality and earnings management after examining the board of directors' attributes on managing earnings practices. The efficiency of board attributes on earnings management studied by Saleh *et al.* (2005) revealed a positive and significant relationship of CEO duality with earnings management practices. Similarly, Chekili (2012) also found a positive relation between CEO duality and earnings management. Another study led by Zgarni *et al.* (2014) likewise demonstrated a positive relationship between discretionary accruals and CEO-chair duality. Supawadee *et al.* (2013) found that CEO duality had a direct association with profit manipulation.

H4: There is a positive relationship between the CEO-chair duality and earnings management.

4. DATA AND RESEARCH METHODOLOGY

4.1. Variables

4.1.1. Earnings Management

In past study to quantify earnings smoothing the proxy normally used is accruals. In order to estimate accruals 2 varied methods are applied. The former is the balance sheet method (from now on BS approach), while the latter is the cash flow statement method (from now on CF approach). Post going through the research pertaining to accruals' estimation, evidently both methods were applied by the academicians in the past. However, in totality, majority of the academicians gave preference to the CF approach against the BS approach for estimating accruals. In this research as well, the CF approach has been applied.

4.1.2. The Cash Flows Statement Approach

In the cash flow statement approach the below equation can be used for estimating total accruals:

$$TAi = NIi - CFOi$$

Where

TAi = total accruals in year i.

NIi = net earnings in year i.

CFOi = operating activities cash flow in year i.

Based on the CF approach, accruals are the variation among the profits of a firm and its cash flows generated from operations. However, total accruals do not really represent profit smoothing. Accruals are segmented further into discretionary and non-discretionary. Considering past studies, profit smoothing can be carried out solely in the scenario of accruals which are discretionary where the management can employ their personal decisions (i.e., discretion) on the accruals. Thus, the total accruals number includes discretionary as well as non-discretionary accruals.

Mathematically,

$$TA = NDA + DA$$

Reducing the non-discretionary element from the total accruals can give the discretionary accruals.

4.1.3. Estimating Discretionary Accruals Using Modified Jones Model

This research employs modified Jones model established by Dechow *et al.* (1995) for calculating the discretionary element of accruals. It is a model that is normally employed by academicians, such as Klein (2002) and Jaggi and Leung (2007). The discretionary estimation errors' model by Francis *et al.* (2005) gives an improved estimate of such accruals. Yet, it cannot not ensure to better the problems that were visible in the modified Jones model (Dechow *et al.*, 2010).

Based on the modified jones model, non-discretionary element of accruals can be estimated employing the below formula.

$$TA/A_{i-1} = \alpha_1/A_{i-1} + \alpha_2 [(\Delta REV - \Delta REC)/A_{i-1}] + \alpha_3(PPE/A_{i-1}) + \varepsilon_i$$

Where

TA = Total accruals.

Ai-1 = Previous year assets.

ΔREV = Increase in sales.

ΔREC = increase in account receivables.

PPE = plant, property and equipment.

To calculate non-discretionary accruals, the ordinary least square (OLS) approach is applied. The estimation from the OLS model (1) shows the non-discretionary accruals whereas the error terms show the accruals that are discretionary in nature.

4.1.4. Independent Variables

In this research, the explanatory variables are 4 unique applications of CG. These are Board Size, CEO-Chair Duality, Audit Committee Independence and Managerial Ownership. For functional meaning of these factors, allude to the Table 1.

4.1.5. Control Variables

Profit smoothing action of a company might be affected by multiple elements apart from those included in the current research. Thus, in order to locate the motives considered to play a role in impacting the profit manipulation decisions of executives, multiple control variables have been considered in this research, these are, the size and performance of the company, leverage and company growth. For operational definition of the given variables, refer to the Table 1.

Table-1. Measurement, operationalisation, and source of the dependent, test and control variables.

Category	Variable	Description
Dependent variable	Discretionary Accruals (DA)	Estimated by employing the Modified Jones (1991) model: TA/Ai-1 = α 1/Ai-1 + α 2 [(ΔREV − ΔREC)/Ai-1] + α 3(PPE/Ai-1) + ε i
Independent variables	Board Size (BS)	This implies the number of directors on the company board and is estimated by using the natural logarithm of members on the board.
	CEO-Chair Duality (CEOCH)	Considers if the 2 responsibilities are allocated to a single individual or not. CEO–chair duality is considered as a dummy variable and is taken as 1 if the CEO and the chairman are the same individual else it is considered to be 0.
	Audit Committee Independence (ACI)	This refers to the existence of autonomous directors in the committee responsible for auditing and is estimated as a percentage of the total number of directors in the audit committee.
	Managerial Ownership(MO)	This refers to the percentage of stocks owned by the promoters of a firm and estimated as shares owned by promoters divided by the total number of outstanding shares.
Control variables	Firm Size (FS)	Logarithm of total company assets is considered as a proxy for the size of the firm.
	Firm Performance (FP)	In this research company performance is calculated as return over assets.
	Leverage level (Lev)	This research considers debt/equity level as a proxy for leverage.
	Firm Growth (FG)	In this research company growth is estimated using assets growth and is estimated by the equation: FG = (T.Ai − T.Ai − 1)/TAi − 1

4.2. Empirical Model

Given that this research is done on longitudinal (Panel) data, we employ panel data econometric methods for calculation. The panel data methods study the data across firms (cross-section) and across years (time-series) together.

The normal form of the model is as given below:

$$DA_{ki} = \beta_0 + \beta_1(BS_{ki}) + \beta_2(MO_{ki}) + \beta_3(AI_{ki}) + \beta_4(CEOCH_{ki}) + \beta_5(ROA_{ki}) + \beta_6(Lev_{ki}) + \beta_7(FS_{ki}) + \beta_8(FG_{ki}) + \mu_{ki}$$

where

DA = company's discretionary accruals.
BS = size of the board.
MO = managerial ownership.
AI = independence of audit committee.
$CEOCH$ = CEO - chair duality.
ROA = return on assets.
Lev = leverage.
FS = size of the company.
FG = company growth.
β_0 = equation intercept.
μ = error term.
β_1 *to* β_8 = coefficients.
'*k*' *and* '*i*' = subscripts for entity and time period.

4.3. Sample Selection

The study covers 6987 listed non-finance Indian companies for the period 2004-18. We use Prowess to extract the required data. We will do so because this dataset provides us with a large sample of firms with more precise measures of corporate governance than those used in the literature. The required features, to the best of our knowledge, are not available at the firm level anywhere in the world.

Table-2. Final sample selection.

Particulars	Firm years
Total firm years for Jones model	8,05,152
Less: Missing data for Jones data	7,89,390
Final Firm years for Jones model	15,762
Less: Missing data for variables of interest	6,049
No. of firm years left	9,713
Less: Missing data for control variables	2,726
Final Firm years	6,987

We extracted the data for 8,05,152 firm years from Prowess. Due to missing data of variable(s) required for Modified Jones Model, namely, net income, cash flow from operations, revenue, receivables, and property, plant and equipment, we removed 7,89,390 firm years. Further, we removed 6,049 firm years due to absence of data of independent variable(s), namely, board size, number of independent and total directors in the audit committee, the percentage of shares held by managers, and existence of CEO-chair duality. Lastly, we removed 2,726 firm years due to absence of data of control variable(s), namely, debt-equity ratio, return on assets, and total assets of the year under study and its previous year. Finally, we are left with 6,987 firm years.

5. EMPIRICAL RESULTS

This segment gives the findings and explanation of a variety of econometric and statistical methods employed for data analysis.

5.1. Descriptive Statistics

Table 3 presents descriptive statistics of the variables. It portrays the minimum, maximum and standard deviation of the variables.

Vinscerization of the data belonging to the lowermost and uppermost 5% of the series has been done. Discretionary accruals, a measure of earnings management, show the average be -0.073766 with standard deviation to be 2.593494 and values ranging from a minimum of -41.51767 to a maximum of 139.4532.

Audit Committee Independence has an average of 0.816633, which indicates that on an average 81% of the audit committee is composed of independent members. The second metric to indicate corporate governance is the board size. The results indicate that on an average there are 10 members on the board of directors of a company, ranging from 6 to 17. The next measure is the CEO chair duality. The mean of this metric 0.431802 indicates that majority of the companies have CEO and Chair as two different people.

Table-3. Summary statistics.

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DA	-0.073766	0.079934	139.4532	-41.51767	2.593494
ACI	0.816633	0.75	1	0.571429	0.149799
BS	10.55002	10	17	6	3.035275
CEOCH	0.431802	0	1	0	0.495363
MO	0.530363	0.5528	0.7499	0.1589	0.168211
FP	0.073022	0.07145	0.203929	-0.050299	0.064588
FS	3.979835	3.971452	5.374413	2.685069	0.741164
FG	0.139071	0.087784	1.09821	-0.472909	0.367677
Lev	5.437835	2.086653	27.76388	0.006796	7.558037

The fourth metric, managerial ownership measured using the proxy promoter's stake, indicates that majority of the stake is owned by promoters. On an average, the promoters, ranging from 15.89% to 74.99%, own 53% stake.

5.2. Correlation

Table 4 shows the correlation output and it is visible that the variables of corporate governance, that is, audit committee independence, board size, CEO chair duality and managerial ownership are all directly related with discretionary accruals (DA). Also, the control variables, namely, company performance, size, growth and leverage, are directly related with discretionary accruals.

Table-4. Correlation of variables used in the main model.

Variables	DA	ACI	BS	CEOCH	MO	FP	FS	FG	Lev
DA	1								
ACI	0.02001246	1							
BS	0.12818554	0.10473163	1						
CEOCH	0.04672329	0.06573626	0.001198	1					
MO	0.04206636	-0.0027097	0.011198	0.050768	1				
FP	0.12926848	0.06631897	0.169647	0.029207	0.1349812	1			
FS	0.24414437	0.08670113	0.471066	0.026492	0.0028153	0.08969612	1		
FG	0.02921946	0.00542945	-0.00498	-0.00544	0.0417777	0.13563268	0.023967	1	
Lev	0.04388242	0.10822331	0.181334	0.05423	-0.019359	-0.1051273	0.45712	-0.01657	1

All independent variables are weakly correlated, taking one pair at a time, as the correlation between none of them is more than 0.7. This helps us to conclude that there is low likelihood of the existence of the problem of multi-collinearity in the research output of the regression model.

The correlation between discretionary accruals and CEO chair duality, being positive, is in line with our hypothesis of the two variables being positively related. We'll further examine this using the regression results.

5.3. Multivariate Regression Model

To test the hypotheses, we run a multivariate panel data regression (Table 5) using random effect model as indicated by the Hausman Test (which gave insignificant results, thus accepting the null hypothesis of random effect model being more preferable). In model one, we took all the independent variables in the regression. In models 2, 3, 4, and 5, we have taken audit committee independence, board size, CEO-Chair duality, and managerial ownership, respectively as the lone independent variable.

In model one, which includes all independent variables, audit committee independence, which has been hypothesized as having a negative relationship with management of earnings, shows a positive but insignificant relationship with the dependent variable. This could be explained by the fact that Internal/Non-Independent members of the committee might be more intrinsically involved in critical evaluation of financials. However, Independent members could be more casual/lenient in the same. In such a scenario, if an audit committee is comprised of more independent members, audit process will be more relaxed and thus less instances of earnings management will come up. This will promote greater opportunities of earnings management in a company.

Also, the size of the board portrays a direct relationship with profit smoothing, but this relation is not very significant. It implies that board size has no influence on earnings management practices by executives. This conclusion aligned with Abbott *et al.* (2000) who, stated that there exists no connection among the variables, even though other papers show conflicting results.

Considering CEO-Chair duality, as hypothesized, the study shows a profound direct association between the two variables which leads us to believe that companies where the CEO and chairman are one and the same individual are involved in great degree of manipulation of financials. This conclusion aligned with past research. In existing literature, it has been found that for companies whose CEO and chair are the same individual, the likelihood of facing accounting implementation decisions by supervisory organizations is greater for GAAP violations (Dechow *et al.*, 1996). Researches pertaining to the CEO– chair duality also present a direct relation of CEO–chair duality with earnings management.

Table-5. Main regression results.

Particulars	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-5.344387 (0.0000)	-5.061504 (0.0000)	-4.914635 (0.0000)	-4.960172 (0.0000)	-5.149423 (0.0000)
ACI	0.191707 (0.3447)	0.207326 (0.3065)			
BS	0.003913 (0.7372)		0.003715 (0.7500)		
CEOCH	0.152698 (0.0363)			0.159112 (0.0290)	
MO	0.482911 (0.0269)				0.494858 (0.0233)
FP	2.391297 (0.0000)	2.501524 (0.0000)	2.517632 (0.0000)	2.500464 (0.0000)	2.431091 (0.0000)
FS	1.161610 (0.0000)	1.176560 (0.0000)	1.711253 (0.0000)	1.176029 (0.0000)	1.175857 (0.0000)
FG	0.132621 (0.0292)	0.133460 (0.0281)	0.134085 (0.0274)	0.134599 (0.0267)	0.130667 (0.0315)
Lev	-0.016256 (0.0024)	-0.016269 (0.0023)	-0.015913 (0.0029)	-0.016216 (0.0024)	-0.015886 (0.0029)
Adjusted R-Sq	0.041448	0.040676	0.040567	0.041168	0.041182
F-Statistic	38.75938	60.24296	60.07628	60.98925	61.01112
Prob(F-Statistic)	0	0	0	0	0
Firm years	6987	6987	6987	6987	6987
CS Random effect	Yes	Yes	Yes	Yes	Yes

Finally, the results show that ownership by management and manipulation of earnings are directly associated. This can be justified by certain past studies where Al-Fayoumi *et al.* (2010) interpreted that ownership by insiders and management of earnings are directly associated, and the relation is profound implying that an increase in insider ownership will lead to greater earnings management. Supporters of given perspective (Morck *et al.*, 1988; Cheng and Warfield, 2005; Mitani, 2010) were of the view that increased ownership facilitates executives with the opportunity to manage earnings, and therefore found a direct relation of managerial ownership with profit smoothing.

It can also be seen, after analysing other models, which the results are in line with those obtained from the first model.

6. CONCLUSION

Given research concentrates on studying the influence of corporate governance measures on the management of earnings in India across a duration of 8 years starting 2004 to 2018. The multi variable regression based study under the random effect approach has been utilized for calculation. The output provides confirmation of a profound positive relation among CEO–chair duality and discretionary accruals showing that to control manipulation, the CEO and chairman of the company, preferably should not be the same individual. The designations should be occupied by 2 different people. Also, ownership of managers in a company again depicts a direct relation with discretionary accruals. On the other hand, output shows insignificant association of board size and audit committee independence with discretionary accruals signifying that greater percentage of autonomous directors on the audit committee may or may not lead to a rise in the discretionary accruals, thus portraying that independent directors on the committee might not play a significant role in reducing management of earnings.

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