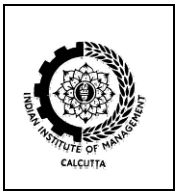

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Exploring the relationship between Earnings Management and Corporate Governance characteristics in the Indian context

by

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Working Paper

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Introduction

Earnings management in general should be undesirable as the tradeoffs are expensive for the owners in the long run. Indian companies characterized with relatively higher promoter shareholding and with dominance of family owned businesses should essentially be subscribing to the view that discretionary earnings management would be detrimental to the owners. However, depending upon market efficiency, the role of managerial discretionary accounting choices to signal better information may be argued for a certain amount of earnings management passing through the board's scanner in Indian firms as shown by the results in this study.

Corporate governance is a system of structures and processes to direct and control the functions of an organization by setting up rules, procedures and formats for managing decisions within an organization. It specifies the distribution of rights and responsibilities among company's stakeholders (including shareowners, directors, and managers) and articulates the rules and procedures for making decisions on corporate affairs. It thus provides the structure for defining, implementing and monitoring a company's goals and objectives and ensuring accountability to appropriate stakeholders. As we observe in several other facets of corporate life, corporate governance practices should not follow the one – size –fits – all principle. Practical examples in real life scenarios are signal enough to indicate the need for customizing these corporate governance norms for a country if not for an industry or a firm as a whole. The Maruti Suzuki's recent handling of the dissenting employee union members by doling out considerable severance packages to them did not go too well with its institutional investors[1] nor was it readily acceptable from good corporate governance disclosure norms point of view. Few companies if at all get the shareholders brunt for not so appropriate corporate board decisions in India, exception of course being the director's resolution against Maytas acquisition by Satyam. There the implications were severe from shareholder's wealth point of view, necessitating a near collapse of Satyam's ADRs value.

Corporate organizational form has its own complications with diverse stakeholder groups to take care of. Though its multiplicity speaks for its efficiency, corporate governance norms are

[1] Though the firm was not under any regulatory obligation to take its institutional investors into confidence.

required to bring in harmony between disparate & conflicting interests groups. Relative importance attributed to the particular stakeholder group at times influences the governance systems within firms and countries, as the widely accepted definition of corporate governance refers to it as the set of control mechanisms to ensure that the investors get their required return on investment (Shleifer & Vishny 1997). We have people disagreeing with the said emphasis on 'providers of capital' & their 'interests' as despite the corporate form being organizationally efficient, their governance gained attention following the spate of corporate frauds. Corporate governance issue widely debated in the developed market economies needs to be discussed in a different vein in the Indian context. India for example did not share the set of factors responsible for the Asian crisis, which were largely macroeconomic and related to bank failure due to unprecedented and unchecked growth. Similarly structural characteristics in the Indian corporate sector are quite different from that of US and UK leading to a different set of corporate governance issues here.

One traditional method for classifying governance patterns has been the 'insider' vs. 'outsider' regime, with the outsider system being characterized by dispersed shareholding and high emphasis on protection of minority shareholder interests. This is similar to the 'market' based system with increasing reliance on the capital market for funds. They have greater disclosure and transparency norms for the benefit of the minority shareholders, with more pronounced and comprehensive regulatory frameworks for these 'market based' corporate systems. However the dispersed shareholding creates lesser incentives for the owners to monitor management except perhaps as an effective capital market tool for offloading these shares in case they are not satisfied and want to discipline the errant management.

The 'insider' based regime is closely related to the primarily bank financed systems, having smaller number of dominant shareholders closely monitoring the management with greater incentives to monitor and discipline. The regulatory norms are generally more tolerant towards the concerted group of owners. The principal agent problem characterizing the 'outsider' or 'market based' systems is thus not so dominant in the 'insider' or 'bank based' system. Thus while the anglo saxon countries like US and U K. have the 'outsider' or 'market based' system, Germany, Japan have the 'insider' or the 'bank based' system. India typically has a combination of the two systems with considerable concentrated stock ownership as compared to the 'market based' or 'outsider' system and dominance of family owned and managed firms. However, bank

is not the only source of finance with a significant number of them being government owned and controlled with proliferation of institutional investors gaining importance as a class. Rather than comparing the two models for superiority of one over the other, emphasis should be laid over the context specific attributes needed to be incorporated which would help them adapt to one system over the other. Moreover the classic agency problem between diversified owner and manager (referred to as Agency problem type I – Billalonga & Raphel, 2006) is kind of overshadowed by the conflict of interest between the controlling dominant shareholder and the minority shareholders (Agency problem type II), as the dominant shareholder has incentives[2] to monitor the manager.

With time the share of promoter shareholding has not really come down. The average promoter shareholding in most of the firms in India was as high as 48.1% in around 2002 (Topalova 2004). While in this study it average to about 50.31% in the sample Indian firms. Weak shareholder and creditor rights protection are primarily the reasons we have dominant promoter shareholding and control by a selected few. Weak property rights are primarily the reasons for concentrated shareholding and family control over businesses thereby reducing transaction costs and asymmetric information problems in firms. Corporate governance norms in India have evolved well over the years post the economic liberalization, with SEBI constituting a number of committees to suggest codes of conduct for good governance of corporate organizations. This was followed by the listing agreement under clause 49 and by the Voluntary guidelines of corporate governance in 2009 laid out by the ministry of corporate affairs. These norms are inherently related to the legal and institutional environment in the country. India has had the legal framework for regulating corporate form of organizations since the formulation of the Companies Act 1956 along with fairly functional stock exchanges and their detailed listing requirements – thus the 'de jure' protection was present but despite the proliferation of norms minority shareholders and creditors were largely insecure about the 'de facto' protection missing (Chakrabarti 2005). Improving corporate governance standards is imperative with fading cross country inhibitions in raising funds globally. This signals greater information symmetry and transparency.

Earnings Management has been defined as purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (Schipper, 1989). It is the

[2] Their relatively greater exposure in terms of their concentrated shareholding and investment in the firm.

planning and control of the financial reporting system to meet the management objectives of meeting analysts' expectations, maintaining the economic growth trajectory or arriving at the predetermined target income for their incentive pay (Giroux, 2004). The issue of Earnings management has been a matter of concern to academicians, regulators and practitioners alike. However, the way the issue has been dealt by them varies. Academicians look for patterns and trends among large samples using mathematical analysis whereas, managers and regulators look for the same on a case to case basis (Dechow & Skinner, 2000). Would a change in accounting policies by eliminating managerial discretion to arrest earnings management opportunities be an optimal solution from good corporate governance point of view? This would rather restrict an avenue for the managers to differentiate themselves for better incentives linked to the earnings of the firm. Earnings are one of the several signals managers liberally make use of while taking their decisions in the organization.

Earnings management being self interested behavior ranges from manipulation to opportunism, where opportunism is 'self interest with guile' (Giroux 2004). This is perpetrated through the popular four avenues undertaken by management as laid out by Healy and Wahlen (1999) of avoiding debt covenants, enhancing managerial incentives, managing financial statements just before going to the capital market or, managing costs of regulatory and corporate governance compliance. These essentially revolve around the financial reporting disclosures of a firm. Providing true and fair view of the financial statements is the primary objective of good corporate governance as it provides the necessary information to the stakeholders for protecting their interests in the firm (OECD 1999). The very basic premise of earnings management however being adjusting the financial reporting numbers for managerial self interest strikes at the very base of good corporate governance conduct and compromises with the interests of the stakeholders. Among the list of motivations for earnings management as given above, we in this paper are concerned with the degree to which certain characteristics of good corporate governance arrest the self interested behaviors of management of managing the firm's reported earnings towards their personal gain.

Earnings adjustment (management) as a mechanism increasingly resorted to by management to portray earnings at a desired level or for reporting an expected income pattern is achieved through the discretionary financial reporting choices, which some of our flexible accounting

standards offer. The dividing line between earnings adjustment and fraud is one of intention and is quite subjective. Among the list of incentives for managing earnings to drive management as given above, 'signaling or concealing private information' (Demski, 1998), seems a lot more convincing, so is the benefit of making the CEO look good to the stakeholders for meetings analysts expectations (Evans & Sridhar, 1996). This argument goes well with the age old agency problem of managerial compensation contracts and performance linked bonuses leading to opportunistic earnings management by the managers at the expense of owners (Jenson & Meckling, 1976).

However, as pointed out earlier, the Indian corporate sector with majority family owned and controlled firms, presents a case for type II agency problem and hence would make an interesting context to explore with relatively better matching of the cash flow rights of the dominant shareholder with the voting rights. More so as, of late corporate governance discussions have gained prominence in India again, with the confession made under the Satyam fraud necessitating review of our corporate governance standards and policies. The scandal fortunately did not have a percolating impact on the Indian corporate sector. The Maruti Suzuki episode, the Wipro employee embezzlement case[3] along with cases as recent as of Kingfisher Airlines[4] has initiated debates as to whether major regulatory overhauling is required for a more principles based approach to corporate governance norms. A fine balance has always been maintained with formulating standards and policies, taking care to facilitate the India specific corporate culture. We have enough norms here as India does compare favorably to most other Asian counterparts, as far as corporate governance regulations are concerned. Compliance to those norms however needs to be ensured.

The objective of this study is to present a more comprehensive study of the association between corporate governance variables and earnings management with firm level data, in the emerging market context of India- characterized by concentrated corporate ownership and family control of firms. The corporate governance structures in the past have paved way for dominant equity holding by families who make important firm decisions unilaterally, including majority board members being appointed by them. This led to severely compromising the minority shareholder interests with mismatch between cash flow and control rights in the firm (Classens et al. 2000).

[3] Allegations by two former employees of Wipro in 2010 that earnings were being managed could not be substantiated by Wipro's audit committee.

[4] Owner's equity being depleted with extensive reliance sought on bailout options.

Minority shareholders interests could be protected with better corporate governance features – Big Four audit firms as external auditors or boards with greater percentage of independent directors, to ensure checks against expropriation of minority shareholder's interests by the dominant shareholders (Klapper & Love, 2004). The rationale for the study is provided by considerable earnings management observed across a cross-section of Indian firms across the period 2006-2011 using Benford's law (1938). The results are statistically significant suggesting a need for analyzing the association between various corporate governance characteristics and earnings management more closely. Thus we have reasons to believe that better corporate governance firms would have relatively lesser incentives for earnings management due to lower agency problems of conflict of interest between the agent and the principal, primarily the dominant and the minority shareholders in the Indian context (Agency problem type II).

Earnings Management in Indian firms

A study based on modeling manager-owner relationship over time comes up with an interesting finding. The rationale is built on relating earnings management to desire for meeting earnings expectations but failure to see the complete picture[5]. This myopic behavior termed as 'bounded rationality' is reason for several of these corporate governance scandals wherein the managers manage their earnings oblivious to the long term implications on the firm. Constant pressure to meet analyst forecasts is a definite causal factor[6]and earnings consistently meeting analysts' benchmarks should raise eyebrows for the corporate governance committees comprising of auditors and other stakeholders. However, giving up on earnings guidances is not the solution as literature shows that firms which have done so were indeed missing the benchmarks in more quarters than one (Chen, Matsumoto & Rajgopal 2010). As a precursor to building up a rationale for a need to examine earnings management behavior of Indian firms, we have applied Benford's Law to test for unusual patterns in earnings numbers for our sample of 2315 firms taken from the CMIE Prowess database over the period 2006-2011 (Carlsaw 1988, Thomas 1989). The test basically looks for more number of zeroes and lesser number of nines[7] than those predicted by probability for the second most digit in the reported earnings number. The motivations for the

[5] http://www.physorg.com/news/2011-11-smart-dumb-decisions-shareholders.html accessed on 2-2-2012
[6] With managerial incentives being linked to meeting analyst expectations.
[7] Rounding off the most important digit to manage earnings.

said managerial behaviors essentially can be mapped to the same earnings management incentives as discussed above (Healy & Wahlen 1999, McNichols 2000).

The observed frequencies of the second digit needs to be compared with the predicted frequency using Benford's law (1938) as each of the ten digits are not equally likely to occur in the second place. Most likely to occur are the zeroes and least likely are the nines, with other numbers falling in between. The variable tested for is positive profit after tax (pospat)[8] totaling some 8026 firm observations over the sample period.

The null hypothesis for the same being:

H_0: The observed distribution of the digits occurring in the second place for the variable (pospat) under study are in sync with the predicted distribution.

The alternate (H_A) for the same being, there are significant deviations between the observed and the predicted distribution for the second digit with greater frequencies of zeros and lesser frequencies of nines and the deviations are statistically significant.

Table 1

*pat – Profit after tax,

**pospat – Positive profit after tax,

*** negpat- Negative profit after tax,

**** npnl – No profit no loss cases, All figures are in Rs crores

Basic descriptives for the variable (PAT) for 9921 observations studied for applying the Benford test is as given above. We test for the profit reporting firms (pospat) having 8026 observations.

[8] We also tested for Revenue/Sales , however POSPAT being a derived number finds better acceptance for validity– results for Sales are attached in the appendix.

Table 2

Digit distribution for pospat (2nd digit)

Value	Count	Percent Observed	Percent Expected	Diff. (MAD)	P-value
0	1350	16.82	11.968	4.852	0
1	906	11.288	11.389	-0.101	0.7921
2	831	10.354	10.882	-0.528	0.1322
3	779	9.706	10.433	-0.727	0.0327
4	713	8.884	10.031	-1.147	0.0005
5	791	9.855	9.668	0.188	0.571
6	717	8.933	9.337	-0.404	0.2196
7	699	8.709	9.035	-0.326	0.3207
8	621	7.737	8.757	-1.02	0.0011
9	619	7.712	8.5	-0.787	0.011
Total	8026	100	100	1.008	

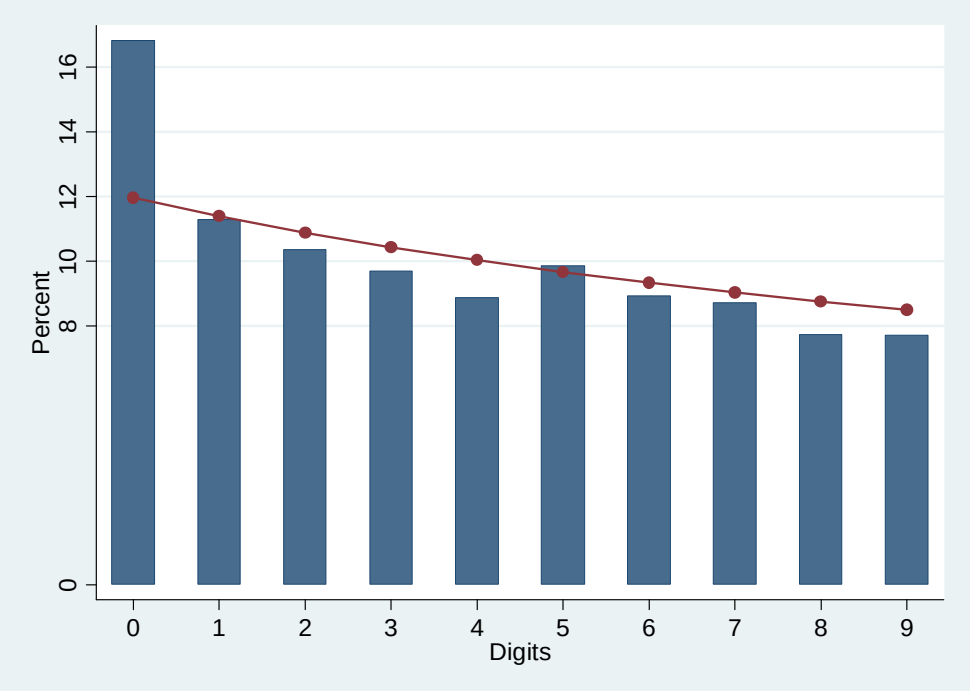

Table above shows the distribution of the digits 0 – 9 for Positive Profit after tax (pospat) for 8026 firm observations over 2006-2011 from the Prowess database of CMIE. The distribution shows that the digit '0' is over represented and the digit '9' is underrepresented and the difference between predicted (as per Benford law) and observed percentages for both are statistically significant.

To check for overall bias in the variable pospat, a chi square test was done for all the nine digits together which is significant.

Table 3

The result in general implies some adjustment and rounding up of the earnings number by the concerned management, in general thus laying the groundwork for a more detailed study required in the wake of increasing positive sentiments for good corporate governance firms in India[9].

Literature Review & Hypothesis development

Earnings Management

Earnings Management as a managerial incentive has been amply discussed in literature. Authors have discussed various motives ranging from '..to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend upon reported accounting income numbers' (Healy & Wahlen, 1999) managing performance bonuses (Matsunga & Park, 2001) to capital market expectations (Bartov et al., 2002). Irrespective of the motive, the issue with earnings management is that it is not directly measureable. Thus proxies used are aggregate abnormal or discretionary accruals. Though accruals primarily are supposed to overcome problems in measuring firm performance by bridging the gap between earnings and cash flows (Dechow, 1994). However the discretionary accounting choices with managers[10] might be geared towards opportunistic earnings management rather than decreasing information asymmetry for better signaling about financial performance of firms. The market efficiency in general is assumed to take care of these

[9] FIIs

[10] For example Depreciation, R&D expenses, provisions & reserves.

anomalies with adequate discounting of firms indulging in the said behavior. But the fact remains that earnings manipulations do exist and in turn influence the markets. The Jones (1991) model and modified Jones model are widely used for measuring discretionary accounting accruals, despite its limitations.

Corporate Governance

The role of corporate governance in curbing earnings management, especially in the developing economy context of India has been justifiably argued for. The corporate governance norms for the various sub committees of the board, delegated with the task of monitoring the management as shareholder representatives ensures adequate compliance with the disclosure and financial reporting standards and practices (Zahra and Pearce, 1989). Apart from ensuring alignment of the interests of the agents with the principal, adequate corporate governance practices enhance the credibility of the reported financial statements in compliance to the accounting standards and the regulations (Watts & Zimmerman, 1986).Thus we have a set of corporate governance attributes related to the subcommittees of the board to explore for their association with earnings management in reducing the perennial agency problem in India through safeguarding the interests of the minority shareholders.

In general, we hypothesize that our sample firms with relatively higher levels of corporate governance structures have lower earnings management.

H_1: Lower earnings management proxies (Discretionary accruals) are associated with higher/better levels of corporate governance attributes.

Independence of the Board of Directors

The role of board of directors as effective monitoring mechanism for management is dependent upon them being non executive and independent (Beasley, 1996). Outsider dominated boards in terms of percentage of independent directors enhances the reputation of the firm as following good corporate governance improving the reliability of its financial disclosures. While there are studies arguing on the contrary with evils of excess policing (Baysinger & Butler,1985) and lack of relevant expertise (Patton and Baker, 1987). These shortcomings can be taken care of by choosing efficient board members. We have conflicting results on the association between board independence and earnings management, with studies by Beasley (1996), Klein (2002) and

Davidson et al., (2005) finding significant negative association between the two. On the other hand Park & Shin (2004), Peasnall et al. (2005) and Bradbury et al. (2006) fail to report any association between earnings management and independence of the board.

Thus we hypothesize that,

H_2: There is significant negative association between earnings management proxies and independence of the board of directors.

Board Size

The number of directors on board is another important variable, though literature does not have a consensus on the influence of board size towards increasing its effectiveness in curbing earnings management. Some studies report a positive association between earnings management and board size due to lag in decision making due to lack of consensus (Goodstein et al. 1994, Chin et al. 2006). Zahara & Pearce (1989), Xie et al. (2003), Peasnall et al. (2005) argue for a larger board as being able to better monitor the management and reduce incentives for managing earnings thereby positing a negative relation with bigger boards associated with lower earnings management. Bradbury et al. (2006) report no association. Thus we observe the association without predicting its direction and hypothesize as:

H_3: There is association between earnings management and size of the board of directors.

Attendance in Board meetings

More number of board meetings would facilitate more vigilant monitoring by the board in the company affairs and thus would be associated with better firm performance and thus reduced earnings management (Vafeas, 1999)

H_4: There is a significant negative association between attendance of directors in board meetings and earnings management.

CEO Chairman

CEO position should be independent of the chairperson of the board to enable balance and check on misuse of power by the same. Agency theory supports the same to avoid conflict of interest for the board chairman to formulate the strategies and be responsible for implementing the same (Jenson1993, Blackburn 1994). This in turn would check earnings management through better

monitoring. Contrary to this view Rechnar & Dalton, (1991) argue for role duality as it would provide better incentives by linking CEO pay with firm performance. Klein (2002) shows that role duality leads to unchecked powers and finds significant positive association with earnings management. A number of studies report no significant relationship (Davidson et al 2005. Cornett et al. 2006). In our sample firms while doing the factor analysis, the variable CEO chair was not loaded significantly (less of a positive coefficient) to be chosen as the significant explanatory variable. This suggests that in our sample of firms segregating the role of the Chairman from the CEO does not significantly contribute towards more effective monitoring and hence lesser earnings management.

Promoter shareholding / Block Shareholding

Average promoter shareholding in our sample of Indian companies is little above 50%, contrary to the US and UK firms with widely dispersed shareholding. To add to the same, majority are family firms having vested interests in maximizing shareholder's interests. Literature shows that high promoter shareholding in tune with solving the agency problem (Jenson & Meckling, 1976) constrains opportunistic earnings management (Warfield et al., 1995, Chtourou et al. 2001, Yeo et al., 2002). High promoter shareholding implies higher vested interests and better incentives for effective monitoring for curbing earnings management (Shleifer & Vishny, 1997).

On the contrary, significantly higher shareholding may lead to diminishing returns due to entrenchment leading to increase in earnings management (Cornett et al., 2008).

Thus it is hypothesized that,

H_5: There is a significant negative association between promoter shareholding and earnings management.

Institutional Shareholding – domestic / foreign

The role of institutional investors' shareholding in a firm and its impact on reducing misuse of manager's discretion gained sufficient limelight in the Satyam's failed attempt to acquire Maytas. They can play an effective role in monitoring and checking on managerial decisions in a firm (Bushee, 1998, Rajgopal et al. 2002). There is conflicting view on institutional investors having a short horizon problem (Lang & McNichols, 1999) and their percentage exposure being the determinant factor towards how important a disciplining role they play in the firm. Thus it

can be hypothesized that institutional investors (domestic & foreign) effective oversight would have a negative impact on earnings management activities of the agents (Chung et al. 2002, Bhojraj & Sengupta, 2003). Probably significant institutional shareholding may create the necessary monitoring incentives to dissuade the managers from focusing on quarterly analysts' expectations rather than long term growth.

H_6: There is significant negative association between earnings management and percentage of institutional shareholding in a firm.

Big Three/Four as an auditor

Existence of an audit committee facilitates the board's job of ensuring financial reporting credibility by delegating it to a subcommittee of directors with certain minimum financial expertise. However the presence of one of the top three/four reputed audit firm as an auditor signals better monitoring mechanism as far as financial disclosures are concerned thereby curbing earnings management behavior (Xie et al. 2003, Bedard et al. 2004, Jaggi & Leung 2007). There have been studies reporting no significant to unusual positive relationship too. Thus it can be hypothesized that:

H_7: There is a significant negative association between earnings management and presence of Big Three/Four as an auditor in the firm.

Research Design

Sample & Data

Our initial sample is drawn from the population of 2697 listed firms in BSE A and B groups as given in the CMIE Prowess database. From this we deleted Banking and Financial services firms[11] (NIC code 64), reducing the sample to 2351 firms. It is difficult to compute discretionary accruals measures for these firms. We further removed 36 firms due to non availability of market capitalization data for the year 2011. This gave us the benefit of ensuring that the sample firms had traded in the last financial year, which increases the probability of data availability for the

[11] These companies in the banking and finance sector are governed by different set of regulations, with their working capital structure requirements being different (Klein 2002).

financial and the corporate governance variables. This gave us a final sample of 2315 firms, though the number of observations (firm years) used in the regressions are 9920 as firms which do not have complete information on some of the variables are also removed. Thus all inferences in the study are limited by the given time period and sample firms.

Data related to board of directors characteristics are picked up from the corporate governance report disclosed as a part of the annual report by companies. All other financial and corporate governance variables are collected from Prowess, including the earnings, working capital, cash flow data for computing the abnormal accruals. The final numbers of observations were reduced primarily because we use modified Jones model to estimate the discretionary accruals for each sample firm. The model's parameters are estimated by industry and we require each firm-year to have at least 3 observations with the same two-digit NIC code.

Earnings Management – Dependent variable measures

The use of accruals adjustment to proxy for earnings management has been widely used in literature as it is less discernible than say a change in an accounting method which needs to be adequately disclosed and justified. We start with using three variables to proxy for Earnings management based on existing literature (Dechow 1995). These are total absolute accruals (tacc_abs), total absolute accruals adjusted for size measured by average total assets (tacc_rel) and Discretionary accruals (abs_da) using the modified Jones model. Total accruals have been divided into discretionary and non discretionary. The non discretionary accruals reflect the underlying economic performance of the firm and are not influenced by managerial discretion with regard to say amount of receivables. Discretionary accruals are the abnormal part of accruals unexplained by change in revenue net of change in receivables and gross Property Plant & Equipment (PPE). These are scaled by average total assets to reduce heteroscedasticity problems.

TA_t – Non DAC_t = DAC_t

$$TA_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta STD_t - DEP_t$$

Where:

ΔCA_t is change in current assets in year t

$\Delta Cash_t$ is the change in cash and cash equivalents in year t

ΔCL_t is the change in current liabilities in year t

ΔSTD_t is the change in short term debt included in the current liabilities in year t

DEP_t is depreciation and amortization expense in year t

Dicretionary accruals is the difference between Total Accruals and Non Discretionary Accruals. We compute Non Discretionary Accruals as given below:

$$\text{Non DAC}_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t - \Delta REC_t / A_{t-1}) + \alpha_3(\Delta PPE_t / A_{t-1}) + \varepsilon$$

Where:

ΔREV_t is revenues in year t less revenue in year t-1

ΔPPE_t is gross property plant and equipment at the end of year t

ΔREC_t is net receivables in year t less net receivable in year t-1.

A_{t-1} is Average total assets at the end of year t-1

$\alpha_1,\alpha_2,\alpha_3$ are firm specific parameters

ε is the residuals

Thus $\text{DAC}_t = \text{TA}_t - \text{Non DAC}_t$

The data needed to compute abnormal/discretionary accruals like revenue, receivables, property plant & Equipment (PPE), etc. are taken from the CMIE Prowess database. A cross sectional regression model for Jones (1991) is used to estimate the unadjusted abnormal accruals for each firm in the sample. Following the NIC 2 digit classification code and the firm years, the accruals are estimated by OLS with industry and year combination, having at least 3 firms in the industry as a prerequisite.

The main dependent variable thus is absolute discretionary accruals (abs_da) with two variations. One is a dummy of absolute discretionary accruals (dummy abs_da) with a value derived by splitting the sample from the median value of absolute discretionary accruals measured as '1' for greater than equal to (>=)and as '0' for less than (<) median of absolute discretionary accruals. This would take care of high vs. low earnings management, if not income increasing vs. income decreasing earnings management and the other proxy is a logarithmic transformation of absolute discretionary accruals (lnabs_da) which is used in the regression model.

Variable definitions are as follows:

S.No.	Variable	Definition
1	Size of the Board	Number of directors on the Board at the end of financial year
2	No. of Independent Directors	Number of independent directors on the Board at the end of financial year
3	% of Independent Directors	No. of Independent Directors/Size of the Board
4	Avg. No. of Board Meetings Attended	Average number of board meetings attended during the year by all the directors, who are on the Board at the end of financial year
5	Max. No. of Board Meetings	Maximum number of board meetings attended by any director, who is on the Board at the end of financial year (Proxy for Total Number of Meetings)
6	% of Board Meetings Attended	Avg. No. of Board Meetings Attended/Max. No. of Board Meetings
7	Avg. no. of other Chairpersonships held	Average number of Chairpersonships held in other companies by all the directors,who are on the Board at the end of financial year
8	Avg. no. of other Directorships held	Average number of Directorships held in other companies by all the directors, who are on the Board at the end of financial year
9	CEO_Chair	1 if Chief Executive Officer of the firm is also Chairperson of the Board of at the end financial year, else 0
10	Promoters - Shares held	% shares held by promoters
11	Indian Promoters - Shares held	% shares held by domestic promoters
12	Foreign Promoters - Shares held	% shares held by foreign promoters
13	Foreign Promoters	Dummy; 1 if % held by foreign promoter > 0, else 0
14	Institutional %	% shares held by institutions
15	Institutional_For %	% shares held by foreign institutions
16	Foreign Institutional Promoters	Dummy; 1 if % held by foreign institutional promoter > 0, else 0
17	Institutional_Dom %	% shares held by domestic institutions
18	Block 5% Share	% shares held by blockholders (where blockholder is defined as any shareholder holding >=5%)
19	Block 5% Count	Number of blockholders (where blockholder is defined as any shareholder holding >=5%)
20	Block 10% Share	% shares held by blockholders (where blockholder is defined as any shareholder holding >=10%)
21	Block 10% Count	Number of blockholders (where blockholder is defined as any shareholder holding >=10%)
22	Auditor_Top_3	Dummy; 1 if Auditor is among member companies of Top 3, else 0 (where Top 3 are Deloitte, PwC and E&Y)
23	Auditor_Top_4	Dummy; 1 if Auditor is among member companies of Top 4, else 0 (where Top 4 are Deloitte, PwC, E&Y and KPMG)
24	Average Total Assets	log of Average total assets in Rs crores
25	Total Absolute Accruals	change in Current assets – change in cash - change in Current liabilities + change in short term debt – Depreciation
26	Total Accruals relative to size	absolute total accruals/average total assets
27	Non Discretionary Accruals	A function of change in revenue net of change in receivables and gross Property Plant & Equipment (PPE)
28	Discretionary Accruals	Total Accruals relative to size - Non Discretionary Accruals
29	Absolute Discretionary Accruals	ITotal Accruals relative to size - Non Discretionary AccrualsI

Results and Analyses

Descriptives statistics for the variables used in the study are given in the table below. The mean and median statistics for discretionary accruals proxy reveal both income increasing and income decreasing earnings management in the sample firms[12], which is taken care of by absolute discretionary accruals showing a median value of 0.13 and a range of 67.69. The wide variation in the variable firm size measured as average total assets (avgta) suggests that one should control for firm size and check for the said bias of large vs. small firms through interaction terms in the regression equations. On an average sample firms have 7 directors on board (size), with 50% of them being independent (ind), with a median average of 3 directors. On an average 75% of board meeting were attended by the directors (att). Promoter shareholding (pro_sh) median value of 50% shows the contextual concentrated ownership issue being a determining factor for examining the association with regard to the nature of promoters' shareholding being primarily indian or foreign and its impact on the associaton between earnings management and corporate governance attributes. Institutional shareholding –domestic and foreign in sample firms show an average 8.69%. Audit quality proxied by the presence of one of the big three auditors is measured as a (0,1) dummy variable showing that roughly 15% of the sample firms engage the services of the big three audit firms as their auditors, implying thereby that not all big firms in India engage the big three auditors. Standard deviations for most of the corporate governance attributes are low, signaling probably a kind of standardized adherence to similar norms of good corporate governance among firms in India.

Table 5

Descriptive Statistics

Variable	N	mean	Median	min	max	Sd
size	13848	7.61	7.00	1.00	27.00	2.79
ind	13848	0.45	0.50	0.00	1.00	0.23
ind_num	13848	3.46	3.00	0.00	16.00	2.10
meet_num	13848	4.65	4.25	0.00	31.00	2.82
meet_max	13848	6.35	6.00	0.00	55.00	3.82
att	12790	0.74	0.75	0.11	1.00	0.15
chp	13848	0.04	0.00	0.00	6.14	0.26
dir	13848	2.66	2.00	0.00	31.36	2.61

[12] Considerable difference between the mean and the median reported.

ceo_chair	13848	0.01	0.00	0.00	1.00	0.08
pro_sh	13166	50.31	51.12	0.00	99.59	19.02
indpro_sh	13166	42.12	44.12	0.00	99.59	22.35
forpro_sh	13166	6.05	0.00	0.00	94.87	16.73
forpro_num	13166	0.20	0.00	0.00	1.00	0.40
inst	13166	8.69	2.02	0.00	99.97	14.08
inst_for	13166	3.45	0.00	0.00	74.18	7.24
inst_dom	13166	5.24	0.78	-0.01	99.97	10.84
forinstpro_num	13166	0.47	0.00	0.00	1.00	0.50
bigthree	13800	0.15	0.00	0.00	1.00	0.36
bigfour	13800	0.17	0.00	0.00	1.00	0.37
block5_sh	13174	7.66	0.00	0.00	134.44	12.78
block5_num	13174	0.81	0.00	0.00	13.00	1.24
block10_sh	13166	3.10	0.00	0.00	123.60	8.71
block10_num	13166	0.20	0.00	0.00	5.00	0.52
avgta	12248	13319.32	1472.33	0.15	2680749.00	75417.76
tacc_abs	12349	326.58	4.25	-167317.90	235640.70	5968.04
tacc_rel	12210	0.06	0.01	-126.52	176.78	3.49
nondisc_acc	11719	0.01	0.00	-31.62	49.19	1.22
disc_acc	11712	0.00	0.01	-67.69	64.92	2.02
abs_da	11712	0.46	0.13	0.00	67.69	1.97

Quartiles Analyzed

Firm size has been an important influencing variable in literature (Becker et al., 1998); thus we use firm size measured as average total assets and segregate the sample into quartiles. We analyzed the means of all the variables within these quartiles with the smallest firm being in Quartile 1 and the biggest ones in Quartile 4. The general observation was that the bigger firms tend to manage their earnings upwards due to targets to be met in terms of market expectations (Rs 1167.53 crores), while the smaller firms manage their earnings downwards to create a buffer for the next year (Rs - 0.18 crores). Firms with higher discretionary accruals were smaller in size, while those with higher assets size had smaller discretionary accruals. Big firms would have larger analysts following and benchmarks to be achieved while smaller firms would have lower external expectations. Thus variables like board size, foreign promoter shareholding, institutional shareholding and choice of big three auditor are increasing with firm size; while absolute discretionary accruals are higher for smaller firms implying that income decreasing earnings

management is more popular among smaller firms in India. Thus there is an overbearing need to control for the impact of firm size while looking at the associations. Therefore in the regression models thus we have controlled for firm size through log of average total assets and looked at interactions of the independent variables with firm size.

Table 6

Correlations

It is observed that the main dependent variable absolute discretionary accruals (abs_da) is significantly negatively correlated with majority of the corporate governance attributes. The correlation matrix reveals significant negative correlations between absolute discretionary accruals (abs_da) and some corporate governance variables like board size (-ve), no. of independent directors (-ive), meetings held (-ive), no. of other directorships held (-ive), promoter shareholding (-ive), institutional shareholding (-ive) and audit quality (-ive) thereby revealing the importance of good corporate governance in controlling earnings management. There also exists high correlation between many of the corporate governance measures implying the possibility of

multicollinearity if used in the same regression. This leads to the use of factor analysis for the corporate governance variables for extracting relevant factors to be used in regression analysis.

Table 7

Correlation Matrix

	size	ind	ind_num	meet_num	meet_max	att	chp	dir	ceo_chair	pro_sh	indpro_sh	forpro_sh	forpro_num	inst	inst_for	inst_dom	forinstpro_num	bigthree	bigfour	block5_sh	block5_num	block10_sh	block10_num	avgta	tacc_abs	tacc_rel	nondisc_acc	disc_acc	abs_da
size	1																												
ind	0.0870*	1																											
ind_num	0.6281*	0.7697*	1																										
meet_num	-0.0459*	0.2168*	0.0940*	1																									
meet_max	0.0636*	0.2112*	0.1545*	0.9025*	1																								
att	-0.3151*	0.0239*	-0.1784*	0.2968*	-0.1328*	1																							
chp	0.0967*	0.0216*	0.0744*	-0.0046	-0.0038	-0.0083	1																						
dir	0.2706*	0.2096*	0.3118*	0.0448*	0.0446*	0.0017	0.0829*	1																					
ceo_chair	-0.0017	0.0348*	0.0216*	-0.0052	-0.0081	0.0149	0.0072	0.0029	1																				
pro_sh	0.1219*	-0.0709*	0.0177*	-0.0685*	-0.0677*	-0.0166	0.0054	0.1344*	-0.0321*	1																			
indpro_sh	0.0578*	0.0306*	0.0650*	0.0631*	0.0279*	0.1066*	0.0011	0.0820*	-0.0418*	0.6317*	1																		
forpro_sh	0.0751*	-0.0857*	-0.0365*	-0.1439*	-0.0972*	-0.1552*	0.0153	0.0692*	0.0236*	0.2681*	-0.4938*	1																	
forpro_num	0.1350*	-0.0369*	0.0424*	-0.1381*	-0.0899*	-0.1530*	0.0066	0.0952*	0.0274*	0.1454*	-0.3926*	0.7272*	1																
inst	0.3534*	0.0242*	0.2226*	0.0273*	0.0515*	-0.0561*	0.0768*	0.2462*	0.0116	-0.0515*	-0.0283*	0.0111	0.0494*	1															
inst_for	0.2786*	0.0705*	0.2257*	0.0470*	0.0728*	-0.0482*	0.0643*	0.2489*	0.0259*	-0.1396*	-0.1019*	0.009	0.0644*	0.6528*	1														
inst_dom	0.2727*	-0.0155	0.1383*	0.0041	0.0183*	-0.0406*	0.0568*	0.1535*	-0.0022	0.0264*	0.0313*	0.0084	0.0198*	0.8625*	0.1798*	1													
forinstpro_num	0.3582*	0.0866*	0.2805*	-0.0001	0.0387*	-0.0911*	0.1001*	0.3270*	0.0443*	0.0145	-0.0589*	0.1341*	0.1567*	0.4580*	0.5097*	0.2543*	1												
bigthree	0.2385*	0.0456*	0.1790*	-0.0668*	-0.0458*	-0.0606*	0.1040*	0.2813*	0.0181*	0.0718*	-0.1442*	0.3125*	0.2572*	0.2519*	0.2539*	0.1577*	0.2921*	1											
bigfour	0.2452*	0.0508*	0.1837*	-0.0746*	-0.0537*	-0.0625*	0.0969*	0.2947*	0.0227*	0.0845*	-0.1797*	0.3771*	0.2962*	0.2632*	0.2701*	0.1616*	0.3133*	0.9357*	1										
block5_sh	0.0532*	0.0404*	0.0590*	0.0196*	0.0439*	-0.0597*	0.0053	0.0485*	0.0156	-0.3281*	-0.2091*	-0.0736*	-0.0242*	0.2371*	0.2180*	0.1623*	0.1142*	0.0672*	0.0731*	1									
block5_num	0.0539*	0.0506*	0.0701*	0.0278*	0.0486*	-0.0490*	0.01	0.0597*	0.0207*	-0.2998*	-0.1815*	-0.0746*	-0.0231*	0.2573*	0.2654*	0.1435*	0.1446*	0.0677*	0.0685*	0.8772*	1								
block10_sh	0.0209*	0.0236*	0.0237*	0.0147	0.0353*	-0.0506*	0.0045	0.0192*	0.0016	-0.2723*	-0.1828*	-0.0578*	-0.0229*	0.1338*	0.0469*	0.1424*	0.0232*	0.0285*	0.0379*	0.7297*	0.4309*	1							
block10_num	0.0212*	0.0318*	0.0288*	0.0259*	0.0464*	-0.0474*	0.0079	0.0156	-0.0031	-0.2612*	-0.1731*	-0.0560*	-0.016	0.1234*	0.0522*	0.1254*	0.0183*	0.0159	0.0210*	0.6859*	0.4944*	0.9061*	1						
avgta	0.2505*	0.0018	0.1454*	0.0836*	0.0806*	0.0043	0.0491*	0.0976*	-0.004	0.0612*	0.0625*	-0.0024	0.002	0.3504*	0.1700*	0.3402*	0.1635*	0.0974*	0.1060*	0.0264*	0.0209*	0.0065	0.008	1					
tacc_abs	0.0623*	0.0004	0.0288*	0.0267*	0.0213*	0.0099	0.0134	0.0163	0.0008	0.0323*	0.0433*	-0.0175	-0.0164	0.1083*	0.0477*	0.1085*	0.0451*	-0.0005	0.009	-0.0088	-0.0089	-0.0007	-0.0046	0.2444*	1				
tacc_rel	0.0069	-0.0217*	-0.0013	-0.0008	0.0067	-0.018	-0.0001	-0.0063	0.0018	-0.0048	-0.0075	0.0028	-0.0013	0.0032	0.0117	-0.0036	0.0069	-0.0038	-0.0081	0.0272*	0.0201*	0.0168	0.0143	-0.0016	0.0512*	1			
nondisc_acc	0.0186*	-0.0311*	-0.0043	-0.0009	0.0112	-0.0374*	-0.0003	0.003	0.0115	-0.0162	-0.0288*	0.0051	-0.0003	0.0104	0.0261*	-0.0039	0.0413*	0.0023	0.0049	0.0104	0.012	0.0036	-0.0025	0.0011	0.016	0.5251*	1		
disc_acc	0.0042	-0.0029	0.0121	0.0016	0.0062	-0.0063	0.0008	-0.0021	-0.0032	0.0216*	0.0202*	0.002	0.0058	-0.0001	0.0052	-0.0036	0.0029	0.0023	-0.0058	-0.0063	-0.0052	-0.0056	0.0008	0.0007	0.0591*	0.8573*	0.0121	1	
abs_da	-0.1030*	-0.0179	-0.0733*	-0.0282*	-0.0300*	0.0044	-0.0162	-0.0751*	0.0003	-0.0740*	-0.0404*	-0.0352*	-0.0424*	-0.0481*	-0.0555*	-0.0254*	-0.0808*	-0.0508*	-0.0472*	0.0026	-0.011	0.0153	0.0023	-0.0300*	-0.0287*	-0.0930*	0.0332*	-0.1293*	1

* indicates significance at 5% level or better

Factor Analysis

Factor analysis reveals 8 factors, the use of which gives moderate results in explaining earnings management. Thus, we pick the 8 variables that find highest representation in each of the 8 factors identified and run a regression using only those factors. We include size of the board along with % attendance in board meetings (att), due to positive contribution of 'size' probably interacting with the negative contribution of 'att' in the rotated component matrix. We also include foreign institutional promoter holding number and natural logarithm of average total assets in the regression analysis.

Table 8

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
size		.392	.195			.302	.138	.623
ind						.907		-.184
ind_num		.180	.142			.900		.281
meet_num				-.112	.952			-.213
meet_max					.970			.139
att				-.210				-.810
chp			.325	-.216			-.105	.257
dir		.230	.483		-.119	.160	.194	
ceo_chair						.118	-.110	-.198
pro_sh	-.278		.115	.138			.850	
indpro_sh	-.166			-.555			.743	

forpro_sh			.198	.893				
forpro_num			.135	.842				
inst	.133	.956	.134					
inst_for		.594	.348	-.110			-.361	
inst_dom	.144	.842					.203	
forinstpro_num		.523	.394			.109	-.158	.178
bigthree			.871	.252				
bigfour		.107	.865	.309				
block5_sh	.892	.138					-.188	
block5_num	.713	.191					-.264	
block10_sh	.914							
block10_num	.913							

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

The Regression Model

We examine the association between corporate governance attributes and earings management proxied by discretionary accruals by estimating the following pooled OLS regession for each of the three variations of the dependent variable, being absolute discretionary accruals (abs_da), a dummy variable for absolute discretionary accruals (abs_da_dummy) and natural logarithm for the absolute discretionary accruals proxy (lnabs_da).

$$abs\_da_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 meet\_max_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \varepsilon_{it} \quad (1)$$

$$abs\_da\_dummy_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 meet\_max_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \varepsilon_{it} \quad (2)$$

$$lnabs\_da_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 meet\_max_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \varepsilon_{it} \quad (3)$$

We then included the interactions of the independent variables with size in the regression model to isolate the impact of the association by removing the bias of size.

$$abs\_da_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 mee\_tmax_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \gamma_1 size\_int_{it} + \gamma_2 ind\_int_{it} + \gamma_3 meet\_max\_int_{it} + \gamma_4 att\_int_{it} + \gamma_5 pro\_sh\_int_{it} + \gamma_6 forpro\_sh\_int_{it} + \gamma_7 inst\_int_{it} + \gamma_8 forintpto\_num\_int_{it} + \gamma_9 block10\text{-}num\_int_{it} + \gamma_{10} bigthree\_int_{it} + \varepsilon_{it} \quad (4)$$

$$abs\_da\_dummy_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 meet\_max_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \gamma_1 size\_int_{it} + \gamma_2 ind\_int_{it} + \gamma_3 meet\_max\_int_{it} + \gamma_4 att\_int_{it} + \gamma_5 pro\_sh\_int_{it} + \gamma_6 forpro\_sh\_int_{it} + \gamma_7 inst\_int_{it} + \gamma_8 forintpto\_num\_int_{it} + \gamma_9 block10\text{-}num\_int_{it} + \gamma_{10} bigthree\_int_{it} + \varepsilon_{it} \quad (5)$$

$$Lnabs\_da_{it} = \beta_0 + \beta_1 lnavgta_{it} + \beta_2 size_{it} + \beta_3 ind_{it} + \beta_4 meet\_max_{it} + \beta_5 att_{it} + \beta_6 pro\_sh_{it} + \beta_7 forpro\_sh_{it} + \beta_8 inst_{it} + \beta_9 forinstpro\_num_{it} + \beta_{10} block10\_num_{it} + \beta_{11} bigthree_{it} + \gamma_1 size\_int_{it} +$$

$\gamma_2 ind\_int_{it} + \gamma_3 meet\_max\_int_{it} + \gamma_4 att\_int_{it} + \gamma_5 pro\_sh\_int_{it} + \gamma_6 forpro\_sh\_int_{it} + \gamma_7 inst\_int_{it} +$
$\gamma_8 forintpto\_num\_int_{it} + \gamma_9 block10\text{-}num\_int_{it} + \gamma_{10} bigthree\_int_{it} + \varepsilon_{it}$ (6)

We run the pooled OLS regression with all the three dependent variable proxies (Tables below)

We have given the 'p' values based on robust standard errors to take care for autocorrelation and heteroscedasticity. The results in general lend support to most of our hypotheses. For all the three variations of the dependent variable (measure of earnings management) we find the overall F values significant. However lnabs_da gives the best results with an adjusted R^2 of 9.3%. Size of the firm measured as lnavgta has a significant negative association implying that small firms which are less under the scanner by analysts and the media, manage their earnings more thereby reporting higher levels of discretionary accruals. Thus big firms are not smoothing their earning relatively as they would not be able to hide their discretionary accruals as compared to the smaller firms.

The size of the board has a negative and significant coefficient indicating that bigger boards are able to do justice to their roles of monitoring earnings management. Smaller boards are poor at effectively monitoring and curbing earnings management behavior. Thus the results are consistent with Xie et al. (2003), Peasnall et al. (2005) that larger boards are more effective in preventing managerial discretionary decision making. Bigger size boards appoint various subcommittees for delegating their responsibilities for greater efficiency than smaller boards. These subcommittees with division of responsibilities perform better monitoring as compared to smaller boards (Klein, 2002).

Percentage of independent directors as compared to board size (ind) is significantly negatively associated with lnabs_da, consistent with Beasley (1996), Klein (2002) and Davidson et al., (2005). This suggests that greater number of external directors on board is effective at restraining management of earnings thereby supporting H_2. Thus larger boards are more likely to induct higher number of competent independent directors as compared to smaller boards (Xie et al., 2003). Outside directors take the effort to maintain the integrity and credibility of the financial reporting process in firms through lesser accruals and earnings management.

More the number of board meetings lower are the discretionary accruals suggesting that active board members are more vigilant monitors. The attendance of directors at board meetings shows

the expected negative sign, though not statistically significant, suggesting higher attendance of board members in the meetings lowers the management of earnings. We need to look at the interaction of firm size with attendance for more clarity on the same.

Promoter shareholding has a strong significant negative association with all three proxies of discretionary accruals showing that the contextual concentrated shareholding impact of Indian firms has a positive contribution towards restraining unprecedented earnings management behavior. This suggests that as the promoter shareholding in the company reaches a certain benchmark aligning their interests with the firm, their opportunistic behavior reduces. This supports our hypothesis (H_5) and indicates lesser agency problems and greater alignment of interests or rather better control among Indian firms (Jenson 1976, Shleifer & Vishny, 1997, Chtourou et al. 2001, Yeo et al., 2002). They have their reputational risks to manage which may be a contributing factor towards the negative association.

Both institutional shareholding and foreign institutional shareholding (forinstpro_num) have significant positive association with discretionary accruals and thus our hypothesis (H_6) does not find support. This is counterintuitive except that the low institutional ownership fails to incentivize management not to manage their earnings. Though the correlation coefficient indicated a significant negative correlation with absolute discretionary accruals the regression model shows a positive and significant coefficient at less than 1%. The average institutional holding in our sample firms is quite meager 8.69% (2.02%), more so the foreign institutional holding 3.45% (0%). This could be a determining factor in explaining their lack of teeth in restraining management. The short horizon problem laid out by Lang & McNichols (1999) however supports our results suggesting that foreign institutional investors with insignificant exposure fail to exercise an effective disciplining role in the Indian context. The interaction effect needs to be analyzed for more clarity on the issue.

Presence of Big Three as an auditor did not find support in the regression model. As a test of robustness we have replaced Big Three with Big Four in our sample of BSE 500 companies discussed later in the study.

Regressions with Interactions

As laid out earlier, our sample size being considerably larger with significant dispersion in firm size, we need to include the interaction terms of the independent variable s with firm size measured as average total assets.

The results with interacting terms have similar coefficients and sign, with some of the variables further improving their significance and coefficient value like board independence (ind), except for attendance of the directors in board meetings (att) where the coefficient becomes positive and highly significant, which might seem counterintuitive. However, when the interaction term (att_int) was used, the coefficient became negative and highly significant again. Thus, the interaction term (att_int) shows that given two firms of the same size, a firm with a board that attends more meetings will manage earnings less, again a sign of board diligence. But the same when looked at on the whole, could throw a positive relation as smaller firms have lower board size, while % attendance across firm size quartiles is almost the same. The attendance, thus, is probably not a sign of board diligence but just higher quorum requirements.

The interaction of board independence with size reveals (for 2 out of three proxies – lnabs_da & abs_da_dummy) that for bigger firms, higher the number of independent directors on board more the earnings management. Thus we find support for arguments like evils of excess policing (Baysinger & Butler,1985) and lack of relevant expertise (Patton and Baker, 1987) as the pool of competent independent directors in India is rather limited.

Promoter shareholding and foreign institutional promoter number seems to suggest higher earnings management in big size firms. Foreign promoter shareholding has a similar association as board attendance, a clear increasing trend with size, showing a positive relationship for the standalone regression model, but significantly negative relationship when interacted with firm size. This implies that given same size, higher foreign promoter shareholding will reduce earnings management.

Big three as auditors in the firm suggests better audit quality, lower earning management as we observe a highly significant negative association with discretionary accruals. The presence of the top three reputed audit firm as auditors signals better monitoring mechanism as far as financial disclosures are concerned, thereby curbing earnings management behavior (Xie et al. 2003,

Bedard et al. 2004, Jaggi & Leung 2007). However this does not hold true for the bigger firms in the sample.

The significance of the constant and the low R^2 show that not all important variables have been captured. Corporate governance is only one aspect. Other firm characteristics like ownership group, debt exposure of the firm, performance etc. also play important roles in explaining earnings management behavior in firms.

Table 9 Dependent Variable is abs_da_dummy

	Model 1 b/t	Model 2 b/t
lnavgta	-0.327***	-0.361***
	(-17.49)	(-10.19)
size	-0.031**	-0.032
	(-3.14)	(-1.27)
ind	-0.024	-0.532*
	(-0.21)	(-2.04)
meet_max	0.036***	0.016
	(5.59)	(0.92)
att	-0.291	0.632*
	(-1.88)	(2.25)
pro_sh	-0.004**	-0.009**
	(-2.82)	(-2.89)
forpro_sh	-0.000	0.011*
	(-0.30)	(2.30)
inst	0.007***	0.021**
	(4.02)	(2.65)
forinstpro_num	0.171**	-0.291
	(3.19)	(-1.89)
block10_num	-0.052	-0.274*
	(-1.23)	(-2.41)
bigthree	0.051	-0.580*
	(0.81)	(-2.21)
size_int		0.001
		(0.09)
ind_int		0.218*
		(2.21)
meet_max_int		0.008
		(1.28)
att_int		-0.385***
		(-3.95)
pro_sh_int		0.002*
		(2.14)
forpro_sh_int		-0.004*
		(-2.47)
inst_int		-0.004
		(-1.90)
forinstpro_num_int		0.170**
		(3.07)
block10_num_int		0.085*
		(2.10)
bigthree_int		0.188*
		(2.42)
Constant	2.659***	2.840***
	(13.69)	(9.52)
N	9920.000	9920.000
r2_p	0.054	0.057
ll	-6498.275	-6476.888
p	0.000	0.000

* p<0.05, ** p<0.01, *** p<0.001

Table 10 Dependent Variable is lnabs_da

	Model 1 b/t	Model 2 b/t
lnavgta	-0.275***	-0.327***
	(-21.85)	(-14.41)
size	-0.017*	-0.044*
	(-2.47)	(-2.52)
ind	-0.127	-0.442*
	(-1.61)	(-2.53)
meet_max	0.014**	-0.009
	(3.19)	(-0.81)
att	-0.214*	0.602**
	(-1.98)	(3.19)
pro_sh	-0.004***	-0.008***
	(-4.37)	(-4.03)
forpro_sh	-0.001	0.007*
	(-1.25)	(2.14)
inst	0.007***	0.012*
	(5.74)	(2.26)
forinstpro_num	0.125***	-0.269*
	(3.31)	(-2.51)
block10_num	-0.041	-0.079
	(-1.41)	(-1.00)
bigthree	0.015	-0.679***
	(0.35)	(-3.64)
size_int		0.009
		(1.74)
ind_int		0.142*
		(2.15)
meet_max_int		0.009*
		(2.21)
att_int		-0.357***
		(-5.46)
pro_sh_int		0.002**
		(2.80)
forpro_sh_int		-0.003**
		(-2.66)
inst_int		-0.002
		(-1.17)
forinstpro_num_int		0.146***
		(3.83)
block10_num_int		0.017
		(0.61)
bigthree_int		0.204***
		(3.75)
Constant	0.304*	0.668***
	(2.30)	(3.44)
N	9920.000	9920.000
r2_a	0.095	0.102
F	96.120	54.792
p	0.000	0.000

* p<0.05, ** p<0.01, *** p<0.001

Robustness tests

As a robustness test, we truncated the sample to BSE 500 firms and analysed it.

The results were qualitatively similar to the results of the entire sample. However there were lesser variations with regard to the variables under study due to obvious reasons. For example, all the board characteristic features were reportedly better[13] as far as the descriptive for the BSE 500 sample were concerned as compared to our initial sample of 2315 firms. Overall promoter shareholding percentage improved to 52.93% (42.12% earlier) with foreign promoter holding increasing to 10.64% (6.05% earlier).

Table 5

Descriptive Statistics

Variable	N	mean	Median	min	max	Sd
size	13848	7.61	7.00	1.00	27.00	2.79
ind	13848	0.45	0.50	0.00	1.00	0.23
ind_num	13848	3.46	3.00	0.00	16.00	2.10
meet_num	13848	4.65	4.25	0.00	31.00	2.82
meet_max	13848	6.35	6.00	0.00	55.00	3.82
att	12790	0.74	0.75	0.11	1.00	0.15
chp	13848	0.04	0.00	0.00	6.14	0.26
dir	13848	2.66	2.00	0.00	31.36	2.61
ceo_chair	13848	0.01	0.00	0.00	1.00	0.08
pro_sh	13166	50.31	51.12	0.00	99.59	19.02
indpro_sh	13166	42.12	44.12	0.00	99.59	22.35
forpro_sh	13166	6.05	0.00	0.00	94.87	16.73
forpro_num	13166	0.20	0.00	0.00	1.00	0.40
inst	13166	8.69	2.02	0.00	99.97	14.08
inst_for	13166	3.45	0.00	0.00	74.18	7.24
inst_dom	13166	5.24	0.78	-0.01	99.97	10.84
forinstpro_num	13166	0.47	0.00	0.00	1.00	0.50
bigthree	13800	0.15	0.00	0.00	1.00	0.36
bigfour	13800	0.17	0.00	0.00	1.00	0.37
block5_sh	13174	7.66	0.00	0.00	134.44	12.78
block5_num	13174	0.81	0.00	0.00	13.00	1.24

[13] Higher number of independent directors & better Board attendance measures in the sample.

block10_sh	13166	3.10	0.00	0.00	123.60	8.71
block10_num	13166	0.20	0.00	0.00	5.00	0.52
avgta	12248	13319.32	1472.33	0.15	2680749.00	75417.76
tacc_abs	12349	326.58	4.25	-167317.90	235640.70	5968.04
tacc_rel	12210	0.06	0.01	-126.52	176.78	3.49
nondisc_acc	11719	0.01	0.00	-31.62	49.19	1.22
disc_acc	11712	0.00	0.01	-67.69	64.92	2.02
abs_da	11712	0.46	0.13	0.00	67.69	1.97

The Quartlies analysed were showing similar results as earlier, however for foreign promoter shareholding percentage in the BSE 500 sample, though the percentage in total had increased, but it showed a decreasing trend with increase in firm size. Thus as firm size increased in this sample, foreign promoter shareholding percentage went down.

The regressions were run for all the three proxies of discretionary accruals. The results are qualitatively similar to our complete sample, except that with the larger size firms in the BSE 500 sample the dependent variable proxy has decreased in magnitude (the quartile analysis validates the same for all the proxies computed). Firm size is still significantly negatively associated with earnings management, however board size is not significant anymore as the sample in general has bigger boards. Board independence is picking up the association given by the correlations. Promoter shareholding is showing a significant positive association, suggesting that with considerably higher promoter shareholding percentage, earnings management is higher in the sample. It is validating similar finding for Cornett et al. 2008, suggesting diminishing returns due to entrenchment leading to increase in earnings management. We included Big Four auditor as the variable for audit quality with the usual negative though not significant association, suggesting that having a reputed audit firm as an external auditor does not deter firms from managing their earnings among the chosen sample of firms. Institutional shareholding is not significant thereby suggesting lack of effective tooth other than the enhanced liquidity in the BSE 500 sample firms shown by increase in the average shareholding percentage among institutional shareholding in general.

Interacting the variables for size was not necessary for the BSE 500 sample as the variations in firm size have been taken care of.

Table 11 Dependent Variable is lnabs_da

	Model 1 b/t	Model 2 b/t
lnavgta	-0.126***	-0.078
	(-4.92)	(-1.46)
size	-0.002	0.021
	(-0.17)	(0.77)
ind	0.155	0.311
	(0.91)	(0.75)
meet_max	0.041***	0.124***
	(4.38)	(6.03)
att	-0.182	-0.718
	(-0.78)	(-1.56)
pro_sh	0.006***	0.001
	(3.33)	(0.31)
forpro_sh	-0.002	-0.001
	(-1.26)	(-0.31)
inst	-0.001	-0.004
	(-0.45)	(-0.66)
forinstpro_num	0.029	0.055
	(0.18)	(0.19)
block10_num	0.076	0.074
	(1.26)	(0.45)
bigfour	-0.056	-0.004
	(-0.87)	(-0.02)
size_int		-0.008
		(-0.94)
ind_int		-0.065
		(-0.44)
meet_max_int		-0.036***
		(-4.51)
att_int		0.246
		(1.49)
pro_sh_int		0.002
		(1.28)
forpro_sh_int		-0.000
		(-0.09)
inst_int		0.001
		(0.71)
forinstpro_num_int		0.015
		(0.13)
block10_num_int		0.002
		(0.03)
bigfour_int		-0.023
		(-0.38)
Constant	-2.214***	-2.794***
	(-6.48)	(-4.91)
N	2106.000	2106.000
r2_a	0.029	0.036
F	6.713	4.695
p	0.000	0.000

* p<0.05, ** p<0.01, *** p<0.001

Table 12 Dependent Variable is abs_da_dummy

	Model 1 b/t	Model 2 b/t
lnavgta	-0.186***	-0.112
	(-4.55)	(-1.29)
size	-0.006	0.071
	(-0.35)	(1.63)
ind	0.702**	0.618
	(2.61)	(0.92)
meet_max	0.074***	0.213***
	(4.47)	(4.93)
att	-0.523	-0.813
	(-1.42)	(-1.08)
pro_sh	0.008**	0.004
	(3.00)	(0.63)
forpro_sh	-0.001	-0.004
	(-0.39)	(-0.68)
inst	0.000	-0.012
	(0.03)	(-1.36)
forinstpro_num	-0.085	-0.701
	(-0.32)	(-1.35)
block10_num	0.169	0.152
	(1.76)	(0.57)
bigfour	-0.023	0.324
	(-0.23)	(1.19)
size_int		-0.028*
		(-1.97)
ind_int		0.016
		(0.07)
meet_max_int		-0.055***
		(-3.65)
att_int		0.163
		(0.61)
pro_sh_int		0.002
		(0.71)
forpro_sh_int		0.001
		(0.63)
inst_int		0.004
		(1.59)
forinstpro_num_int		0.304
		(1.52)
block10_num_int		0.009
		(0.10)
bigfour_int		-0.133
		(-1.38)
Constant	1.058	0.060
	(1.94)	(0.06)
N	2106.000	2106.000
r2_p	0.025	0.032
ll	-1423.730	-1413.529
p	0.000	0.000

* p<0.05, ** p<0.01, *** p<0.001

Summary and Conclusions

The finding of the study has significant implications for policy makers interested in reducing earnings management avenues for improving the quality of financial reporting in firms. The objective of this study was to analyse the relationship between corporate governance characteristics and earnings management in the indian context. Primarily a significant negative association exists between discretionary accruals and most of the corporate governance attributes, particularly implying that board of directors at the helm of the internal control systems in corporate form of organizations play a very significant monitoring role. Thus firms with good corporate governanc manage their earnings less. There is a significant firm size effect on discretionary accruals with bigger firms ensuring lesser earnings management. Results suggest that firms with bigger boards, greater percentage of independent directors, more number of board meetings and higher attendance in these meetings resort to lesser earnings management. Thus from regulators point of view we can see that boards are effective in discharging their duties and are reasonably beyond management dominance. This is in conformity with other empirical findings.

Promoter shareholding with a significant negative association suggests montoring effect though for bigger firms the interaction term suggests that concentrated promoter shareholding leads to higher earnings management. Foreign promoter holdings in relatively large sized firms restrain earnings management. Institutional shareholders seem to have shorter horizon problem with focus on current higher returns therby provide avenues for the managers of these portfolio firms to exercise discretion and excessively manage their earnings to meet the benchmarks. Probably with their increasing stakes[14] over a period of time the relationship between institutional shareholding and earnings management may become nonlinear. In other words, with higher exposure in Indian firms the institutional investors would align their interests with the long term prospects of the firm and actively participate in effective monitoring of managerial discretionary behavior.

From policy making point of view the results suggest concerted efforts to be made towards training these institutional investors towards their active role in board activities. We have

[14] The sample shows their average presence of 8.96% (median of 2.02%) in Indian firms.

Institutional Investors Advisory Services India Ltd. (IIAS)[15] currently focussing on BSE 200 companies with considerable institutional investor exposure on providing rich information for informed decision making on corporate governance matters.

Finally, presence of the big three as auditors has significant restraining impact on managerial discretionary choices in case of smaller firms. However the effect is oposite for big firms where their presence is merely. This might imply that bigger firms are more prone to earnings management irrespective of presence of top auditors, institutional investors etc. From regulators point of view there may be opportunities for giving greater powers to the internal audit function in organizations and thereby enhancing the efficiency of audit committees for curbing earnings management, in turn reducing reliance on the external auditors to perform their whistle blower task in the organization. Another policy implication could be compulsory replacement of auditors after a defined tenure.Similarly investors need to be aware that big firms audited by big three may still be engaging in earnings management for better performance. The findings thus reiterate the importance of contextualising the issue under consideration in view of the legal and institutional structures and processes in place rather than experimenting with some good corporate governance practices used in other contexts. This would go a long way in strengthening firms' reputation and reposing investor confidence.

[15] A start up by Anil Singhvi and Amit Tandon for educating the institutional investors towards voting on agenda items in board meetings.

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Appendix 1

Benford test results for the variable Sales

[redacted]