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Corporate governance deters earnings management: Evidence from India

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Abstract
Earnings management has been known to be associated with inter alia audit quality, corporate governance, issue of securities, managerial motivations and tax incentives. The relationship with corporate governance, while not as direct as some of the other factors, is crucial because financial reporting is an observable outcome of the efficacy of corporate governance. Yet, research linking the two has been scarce, particularly in emerging economies. In this study, we focus on the association of governance variables and cross-listing with discretionary accrual as a proxy for earnings management. Our sample consists of 319 Indian non-financial firms that are a part of NSE500 index. The study has been conducted for the period of 2003-04 to 2017-18. To capture the extent of earnings management, we use the modified Jones time-series model for discretionary accruals. Our analysis confirms the propositions of agency theory. We show that institutional ownership, board independence, size and cross-listing are negatively related to the discretionary accruals whereas promoter holdings encourage discretionary practices. The direction of the association observed depicts that stronger governance results in stricter recording of the fundamental earnings process, thereby reducing the error induced by the accounting system. The paper examines the impact of cross-listing on earnings management along with corporate governance. Current study extends earlier works on establishing the accuracy of the accounting system which will be helpful to investors, regulators and policy makers.

Keywords: Earnings quality, earnings management, corporate governance, discretionary accruals, ownership, cross-listing

Introduction

Earning announcements are one of the most important events in the corporate disclosure calendar, and as such have been researched extensively. Investors look for information content in both the statement of cash flows and the statements based on accruals. While cash flow statements are objective and devoid of managerial discretion, they are not matched for the period; and therefor offer a limited measure of firm performance. As per Dechow and Skinner (2000) [16], the accrual-based statements, on the other hand, are believed to offer a better measure of firm performance in spite of the discretion exercised in accounting treatment of several transactions.

Reported earnings consist of three components - cash flows, non-discretionary accruals and discretionary accruals. Dechow *et al*. (2010) [17] have called the cash flows and non-discretionary accruals as the firm's 'fundamental earnings process' and the reported earnings could contain an 'error induced by accounting system' i.e., discretionary accruals. For an outsider, the cash flows and total accruals are observable; whereas the 'fundamental earnings process' and the extent of discretionary accruals are not observable. This managerial discretion arises out of various accounting policies in force at the organization and has been classified as efficient and opportunistic (see e.g. Beneish, 2001; Krishnan, 2003) [23, 43]. Discretionary accruals of efficient nature signal the markets of private information, such as future earnings. Opportunistic management of earnings, stated by other authors, are motivated by an ulterior incentive (P. Madhogarhia *et al*., 2009) [50] such as: executive compensation, non-violation of debt covenants, success of a public issue, etc. (Burgstahler and Dichev, 1997).

There have been several approaches to find a proxy to measure the extent of earnings management (EM). Though accrual models are found to be noisy proxies of earnings management, Jackson (2018) [25] emphasized a model which considers underlying economics instead of taking the error term as the sole measure of earnings management [1].

Various determinants and consequences of earnings management have been researched, as summarized by Dechow, Ge and Schrand (2010) and McNichols and Stubben (2018) [17, 53]. As per the agency causal model developed by Jensen and Meckling (1976), the governance variables would reduce the earnings management because of strong monitoring mechanisms. The study by P.Jiraporn, G.Miller and S.Yoon *et al*. (2008) [35] also suggested that an inverse relationship exists between earnings management and agency costs. Good corporate governance demands that all material information is disclosed in a time bound manner. This paper provides empirical evidence that corporate governance policies influence the discretionary choices of managers in Indian firms. The reason, as stated by scholars, is that the firms in emerging nations are characterized by weak governance mechanism and under-developed legal and institutional environment (Purayil and Lukose P.J, 2019) [59]. Many firms in India are family-controlled and a major portion of ownership is retained by the promoters and their families, just like other emerging countries. Another feature is that the business groups are dominant players like Europe, Japan and other emerging nations. The agency problem arises not only because of the conflict among principal and managers, but also due to the principal-principal conflict, described by researchers as type-II agency problem (see e.g. Prencipe and &? Bar-Yosef, 2011; Sarkar et al., 2013) [58, 64].

Review of works in other emerging economies shows that, the theory of alignment works as the family ownership leads to higher earnings quality and Wang (2006) [21] also evidenced a non-linear relationship between family ownership and earnings quality. On the other hand, in Jordanian firms, Al-Fayoumi *et al*. (2010) [4] found

managers to engage in manipulating earnings where there are large insiders and restrain from doing it with the increase in institutional investors. In addition to this, a study on Taiwan listed firms by Chi *et al*. (2015) [13] also confirmed a positive relationship between family firms and earnings management. The results about corporate governance as a determinant of EM have not been consistent. So, there is a need for further investigation on the relationship of governance characteristics and level of discretion.

A study of reporting quality in Indian context is necessitated because of frequent reports of accounting frauds, an organizational environment influenced by family or group holding, as well as relatively weak institutional and legal systems. In the reported work, we attribute the variation in discretionary accruals to various governance parameters. We confirm the results for cross-listed Indian firms that had issued securities abroad through the depository receipt route using instruments like ADRs, EDRs and GDRs.

In the subsequent section, we discuss the determinants of earnings management. Section 3 explains our approach to sample selection, hypothesis, data processing and calculation of abnormal accruals. In Section 4, we report that greater institutional holding, smaller promoter holding, larger firm size and cross-listing are associated with lower discretionary accruals, while Section 5 concludes.

Literature Review

Though managers do earnings management for a number of purposes, it is not clear whether they use discretion opportunistically or to fulfill the earnings expectation of investors (Rath and Sun, 2008) [60]. In the words of Yang, Lai and Tan (2008) [77], "Earnings are not managed unless there are incentives for managing them."

1. Corporate Governance and Earnings Management

As per Melgarejo (2019) [54], earnings management can be guarded by effective monitoring and systematic governance arrangements as governance characteristics have a significant impact on the choice of discretion. There is evidence that: Size of the firm, independent directors on the board, percent of ownership held by institutions, number of outside directors, etc. greatly influence the adoption of accounting and reporting practices (see e.g. Alareeni, 2018[3]; García-Meca and Sánchez-Ballesta, 2009 and Ajay and Ranjita, 2015) [2, 24]. The observation by Lee and Choi (2002) [15] is that, "the policies and regulations in large firms are very stringent and making it difficult for managers to retain private information whereas small firms are able to make accounting choices to hide relevant information".

Institutional owners play a vital role in monitoring mechanisms in relation to the protection of investors as well as managers. Balsam *et al.* (2002) [15] found that firms with a large institutional ownership are less exposed to managerial discretion than their counterparts having smaller institutional ownership. Tomasic and Bottomlay (1993) [72] have reported contradicting results where institutional investors, having short term investment goal, are not so much interested in monitoring and managers get involved in making the reported income smooth. Jensen and Meckling (1976) expected the earnings quality to increase with the increase in the proportion of ownership in the hands of managers and executives. In India, regulators call this ownership group as the promoters. Yang *et al*. (2008) [77] stated that greater promoter ownership restricts managers to gain at the expense of shareholders.

The number of members in the board also affects the choice of accounting practices but the direction of the relationship is evolving. Studies viewed independent directors who are normally considered as better monitors limit the level of discretionary accruals (e.g., Chtourou *et al.*, 2001). Sarkar *et al.* (2008) [23, 63] analyzed the relationship between board characteristics on earnings management in India. They found CEO duality as an influential factor for higher earnings management. Frequent CEO turnover is also associated with earnings management. Hazarika *et al.* (2012) [18] found a significant relationship with respect to forced turnover but not in the case of voluntary turnover.

Leuz *et al*. (2003) [47] made a comparative study among 31 countries and reported that in the countries having strong capital market and investor protection, the ceiling of discretionary accruals is low. Bushman and Piotroski (2006) [12] stated that, 'a country's legal/judicial system, securities laws, and political economy create incentives that influence the behavior of corporate executives, investors, regulators and other market participants.

Studies on the effect of corporate governance on earnings quality have varied from a single variable, for example board interlocking, to a combination of up to 39 variables (Larcker, 2007) [45]. Fraction of institutional holdings, board size, board independence (percent of independent directors) and CEO duality (CEO is also board chair) are used in prior literature such as Chiu *et al*. (2013) [14] as proxies for corporate governance and board oversight. The variables widely used in corporate governance literatures and their relationship with EM are summarized in Table I.

Table 1: Relationship of Governance Variables with Earnings Management

Variable for Corporate Governance	Earnings Quality Variable Used	Expected Relationship	Observed Relationship	Scholars
Institutional Ownership	Discretionary Accrual	Negative	Negative	Koh (2003) [42], Kazemian and Sanusi, (2015) [39]
Institutional Ownership	R & D Investment	Negative	Negative	Bushee (1998)
Managerial Ownership	Discretionary Accrual	Negative	Negative	Warfield *et al.* (1995), O'Callaghan *et al*. (2018) [56, 75]
Number of Independent Board Members	Discretionary Accrual	Negative	Negative	Peasnell, Pope, and Young (2000) [57]
Number of Independent Board Members	Discretionary Accrual	Negative	Negative	Chtourou *et al.* (2001) [51]
CEO Duality	Discretionary Accruals	Negative	Negative	Cornett, Marcus and Tehranian(2008)
CEO Turnover	Discretionary Accruals	Positive	Positive	Hazarika *et al.* (2012) [27]
Block Ownership	Abnormal Accruals	Negative	Negative	Velury and Jenkins (2006) [73]
Cross-listing	Discretionary Accruals	Negative	Not significant	Lopes, Tukamoto and Galdi (2007), Silva *et al*. (2015) [49, 66]

2. Other Determinants

Auditing also has a considerable relationship in limiting earnings management practices. Healy and Wahlen (1999) found that flawed auditing practices may motivate managers to obtain stakeholders' interest by exercising discretion over firm performance. Krishnan (2003) [43] and Houqe *et al.* (2017) [29] have examined that discretionary accrual showing a positive relation with future profitability in those firms audited by big four auditing firms against those audited by non-big auditors.

Some earlier studies said that investors rely on financial statements heavily due to inaccessible and unavailable information. So, managers use their judgement in reporting, especially at the time of public issue and stock merger. Aharony, Lin and Loeb (1993) [1] documented that high reported earnings results in high stock prices and ultimately the entrepreneur gains during IPO & SEO. In this context, Teoh, Welch and Wong (1998) [71] studied "whether discretionary accruals predict the cross-sectional variation in post-IPO long-run stock return performance". The findings says that, firms involved in aggressive earnings management during IPO face a decline in stock prices later. Erickson and Wang (1999) found acquiring firms managing their earnings for getting economic benefits out of a merger in the form of less deal value. Watts and Zimmerman (1986) [76] stated that firms with leverage have a tendency to do income increasing earnings management to fulfill the debt covenants. Other researchers have found an association of discretionary accruals with systematic risk, implying that higher discretionary accruals mean lack of transparency, therefore commanding a risk premium in common stock.

The extant literature does not adequately answer questions related to construct validity across various measures of earnings quality. While abnormal accruals remain the most popular measure, it's use in the studies on corporate governance have not given a unanimous verdict (Jensen, 1993; Tomasic and Bottomlay, 1993; Kim *et al.*, 2003; Siregar and Utama, 2008 and Yang *et al.*, 2008) [33, 40, 67, 72]. A revisit of this relationship between corporate governance and earnings quality is merited. Further, while studies on North American data are aplenty; the literature in other, particularly Indian subcontinental contexts, is scanty. Some of the past studies (Welker, 2003; Leuz, Nanda and Wyosocki, 2003) [10] emphasized that earnings management occurs more frequently in emerging economies than in the developed countries due to weaker governance practices and loose rules and regulations. This gap in literature motivated us to undertake the reported study. In the following section, we describe the possible variables describing corporate governance as determinants for earnings management in Indian context.

Research Methodology

1. Data and Sample

The sample selected for the analysis consists of all non-financial firms for which data is available for more than 5 years and which are a part of NSE500 index of the National Stock Exchange as on 31st Dec, 2018. For 397 such firms, annual [2] financial statements were taken from CMIE Prowess Database for 15 years, starting with the financial year 2003[10]-04. The companies were divided into 12 industry sectors using the two-digit code from National Industries Classification 2008[60]. The information about the issuance is being collected from the websites of Securities and Exchange Board of India and 'United States Securities and Exchange Commission Electronic Data Gathering, Analysis, and Retrieval system'.

2. Measurement of Earnings Management

Accounting research since the 1970s, has focused significantly on assessing the managerial motivations behind various accounting choices. As investors follow only the annual financial statements disclosed by companies, Ball (1972) posited that the investors can be systematically deceived. Other scholars differ, who take a view that stock prices do capture the managerial discretion in accounting statements. A number of models have evolved to measure the extent of earnings management. The Jones (1991) [36] Model and its modification introduced by Dechow, Sloan and Sweeney (1995) [19] are the most widely used in academic literature. In both models, total accruals - the difference between net income and cash from operations (CFO) - are calculated using equation (1). Subsequently, the total accruals are divided into innate non-discretionary accruals and residual discretionary accruals. The differences among various models are on account of the model that captures the innate accruals. The discretionary accruals are considered as the proxy for earnings management, which is unobservable in reported financial statements.

$$TA_t = (CA_t - CA_{t-1}) - (CASH_t - CASH_{t-1}) - (CL_t - CL_{t-1}) + (STD_t - STD_{t-1}) - DEP_t \quad \ldots (1)$$

Where,
TA = Total Assets
CA = current assets
CASH = cash holding
CL = current liabilities
STD = short term debt
DEP_t = depreciation charged in year t
Subscripts t and t-1 indicate year

Jones (1991) [36] conducted a time series analysis using equation (2) to model the innate non-discretionary accruals. This model was run separately for each firm under investigation to calculate discretionary accruals ε. The underlying principle behind this model is that sales growth and amount of property, plant and equipment (PPE) are the economic drivers for total accruals. Subsequently she used cross-sectional analysis to test the discretion in accounting practices among various firms.

$$\frac{Total\ Accruals}{Assets_{t-1}} = \alpha \frac{1}{Assets_{t-1}} + \beta_1 \frac{\Delta Revenue}{Assets_{t-1}} + \beta_2 \frac{PPE_t}{Assets_{t-1}} + \varepsilon \qquad \ldots(2)$$

Dechow, Sloan and Sweeney (1995) [19] modified the Jones model and compared it with several other models using simulation. This modification given in equation (3) was shown to be more powerful than the original model (equation 2). This improvement is on account of removal of non-cash sales (increase in receivables), which is clearly a discretionary item.

$$\frac{Total\ Accruals}{Assets_{t-1}} = \alpha \frac{1}{Assets_{t-1}} + \beta_1 \frac{\Delta Revenue - \Delta Receivables}{Assets_{t-1}} + \beta_2 \frac{PPE_t}{Assets_{t-1}} + \varepsilon \qquad \ldots(3)$$

In analyzing any financial statement, analysts emphasize on cash components and accruals. The cash position is

considered more reliable and higher the ratio of cash flow from operations (CFO) to net income, higher is the quality of reported income (Bernstein, 1993). Kasznik (1999) [9, 38] proposed a further modification (equation 4) by treating the part of accruals associated with change in CFO as non-discretionary accruals. Siregar and Utama (2008) [67] find this model to be superior among all alternate specifications.

$$\frac{Total\ Accruals}{Assets_{t-1}} = \alpha \frac{1}{Assets_{t-1}} + \beta_1 \frac{\Delta Revenue - \Delta Receivables}{Assets_{t-1}} + \beta_2 \frac{PPE_t}{Assets_{t-1}} + \beta_3 \frac{\Delta CFO}{Assets_{t-1}} + \varepsilon. (4)$$

Other measures for earnings management include Beneish M-score, accruals ratio, earnings response coefficient, and excess accruals over that of a matched firm. Some measures, such as e-loadings, have gone beyond the traditional accounting-based measure for earnings management. Dechow, Ge and Schrand (2010) [17] have evaluated these measures and Dechow *et al.* (2012) [18] established a new approach to detection of earnings management taking accrual reversals. Ecker *et al.* (2006) [21] find good consistency among various measures adopted in literature. We chose to restrict our study to the three models described earlier in this section.

3. Independent Variables and Expected Relationships

Our research uses five independent variables based on the review summarized in Table I as a proxy for corporate governance. Based on literature, we expect their relationship with abnormal accruals to indicate that stronger (weak) corporate governance is associated with lower (higher) levels of abnormal accruals.

Institutional Ownership: Shareholding by financial institutions as portfolio investment, and not strategic investment, gives rise to a higher scrutiny of actions taken by promoters and managers (Hsu and Koh, 2005) [30]. This variable is usually measured as percent ownership and excludes investor activism by not including small shareholding of less than 2%. The abnormal accruals are expected to be low for firm-years with high institutional ownership, however, this relationship is not linear. However, the results in relation to the relationship are conflicting and not consistent as stated in our review. Therefore, we test the following hypothesis by comparing the different quartiles:

H_1: Presence of large institutional owners is negatively associated with earnings management.

Promoter Ownership: Indian corporate governance regulations (SEBI 2017) [29] define promoter group as "(i) the person or persons who are in control of the issuer; or (ii) the person or persons who are instrumental in the formulation of a plan or program pursuant to which specified securities are offered to the public; or (iii) the person or persons named in the offer document as promoters". Promoter ownership has been found to be associated with weak corporate governance (Jensen, 1993) [33], particularly in family-owned firms. Notwithstanding Siregar and Utama (2008) [67], we expect an adverse relation to that observed with institutional ownership because promoters are often managers who may have an interest in managing earnings. We use a measure similar to institutional ownership to test the hypothesis:

H_2: Promoter ownership is positively associated with earnings management

Board Independence: The association of an independent board with EM is still remained inconclusive. Some has found positive while some got a negative sign. In some studies the t-statistics is insignificant (e.g., Suyono & Farooque, 2018) [70]. From literature, we found three variables that operationalize board independence. CEO duality is used to indicate when the CEO is also the chair of the board. The number of independent directors on boards and the ratio of independent members have been used as a proxy for corporate governance in prior studies (Fama and Jensen, 1983 and Jaiswal, 2012) [32]. We used the percentage of directors who are independent as a measure of board independence as used by Hazarika *et al*. (2012) [27]. We also have used the excess number of independent directors than the statutory minimum - one third of the total - as another measure. Higher independence should be associated with lower discretionary accruals.

H_3: Board independence is negatively associated with earnings management.

Size: Relation of firm size with corporate governance has been well documented. But the association of firm size with quality of reported earnings is most debated. From the view of Lee and Choi (2002) as cited by (Ajit *et al*., 2013) [14, 15], a larger firm draws greater attention from analysts, thus improving earnings quality, whereas Kim *et al.* (2003) [40] documented aggressive earnings management by larger firms. Size has also been used as a control variable in other studies (Wang, 2006) [74]. Since the coefficient for size is not consistent in prior studies e.g., Wang (2006) [74] shows a negative relationship, on the other hand, study by Liu and Skerratt (2018) [48] stated that earnings of large and medium firms are managed more than small and micro companies. So, we further tested the relationship in the Indian context expecting a negative relationship. We measure size using two variables - natural log of market capital and natural log of sales as used by some previous researchers (Goel, 2018 and Avabruth *et al*., 2016) [6, 25].

H_4: Size of a firm has a negative association with earnings management.

Cross-Listing: Lang *et al.* (2006) [44] found that the reporting practices and disclosure are more accurate for the firms cross-listed on the US stock exchanges. The governance system tends to be stronger as they follow the policies of various exchanges and are scrutinized by investors from many parts of the world. Foerster and Karolyi (1999) and Miller (1999) [55] found non-U.S. firms having listed American Depository Receipts (ADRs) report positive average abnormal returns. With reference to these literatures, we can say that the companies listed in multiple stock exchanges will show less discretion. Particularly in foreign countries where the equity markets are developed and a strong legal system is existing. Hence, we expect a negative association between DA and cross-listing. We have taken issue of ADRs and GDRs by firms as the measure of cross-listing. "1" is taken as dummy for the firm years having ADRs/GDRs listed abroad and "0" as not having ADRs/GDRs. We studied the influence of this variable on discretionary accruals with the hypothesis stated below:

H_0 - There is no difference in discretionary accruals among cross-listed firms and the firms exclusively listed in India.

Results and Discussion

The descriptive statistics for independent variables are given in Table II. The minimum number of Promoter holdings and Institutional holdings is 0.00, because in every company some portions of shares are held by these parties. Whereas the maximum shares held by promoters or their family members is 99.73% and 76.70% by institutions. The maximum number independent director over and above the statutory is 7.00 but in some companies its negative due to firms not complying with the minimum number required.

We start our association tests for corporate governance variables with institutional shareholding. The correlation between abnormal accruals and percentage shares owned by institutional investors is expectedly negative (-0.092). To understand the variation, the sample was grouped by institutional ownership as seen from both panels (Panel 'A', and 'B') of Table III. One-way ANOVA for both - grouping in steps of 10% and grouping into four quartiles - were significant at 0.01 with F-statistic of 5.98 and 13.42, respectively. The results from Duncan's post-hoc tests after one-way ANOVA identify four distinct groups. Firms with zero institutional ownership display higher abnormal accruals than firms with up to 10% institutional ownership, while both these groups show higher abnormal accruals than firms with greater than 10% ownership. No significant difference was observed among groups with institutional ownership between 10 and 20%, 20 and 30%, and 30% and 40%. Thus, we observe greater earnings quality with increasing institutional ownership, and improvements are diminishing at higher ownerships. Similar results can be interpreted from Panel B, where the second quartile is performing similar to the top quartile and third quartile. Our findings are consistent with Ajay and Ranjita (2015) [52] who observed a negative relationship among higher institutional ownership earnings quality as institutional owners work as monitors.

Table 2: Descriptive Statistics for Independent Variables

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
Percent of Independent Directors	4785	00	91%	0.32	0.01	0.48
Promoter Holdings (%)	4299	0.00	99.73	55.86	0.27	17.66
Institutional Ownership (%)	4295	0.00	76.70	21.27	0.21	13.93
Excess Independent Directors	4342	-8.00	7.00	1.20	0.03	1.66
Log (Market Capital)	4321	3.16	15.54	10.35	0.03	1.83
Log (Sales)	4771	1.31	15.45	9.78	0.02	1.62
Cross-listing	4785	0.00	1.00	0.05	0.00	0.22

Panel A: Grouped by absolute value of percent holding

Table 3: Institutional Ownership and Abnormal Accruals

Institutional Holding (%)	N	Duncan's Post Hoc Test				Std Error in Mean
		1	2	3	4	
40.01+	427	0.0895				0.00467
31 - 40	619		0.1056			0.00449
21 - 30	815		0.1145	0.1145		0.00408
11 - 20	1100		0.1060			0.00298
2.01 - 10	780			0.1231		0.00432
<= 2.00	237				0.1544	0.00957

Panel B: Grouped in to four quartiles of institutional holding

Quartile	N	Duncan's Post Hoc Test			Std Error in Mean
		Group 1	Group 2	Group 3	
Top Quartile	1026	0.0992			0.0042
Q2	1005	0.1066	0.1066		0.0031
Q3	1010		0.1114		0.0035
Bottom Quartile	911			0.1302	0.0033

The relationship with promoter holding is positive with a correlation coefficient of 0.064 (significance 0.00). Once again, the percent holding was grouped in steps of 10% and using quartiles. In addition, a third grouping was formed on the basis of board power to pass ordinary and special resolutions, as shown in Panel C of Table IV. In Panel A, the discretionary accruals at higher promoter holding are greater than those at lower holdings in general. Some of the values in Panel A are too scattered to make any interpretations. Panel B identified two groups of four quartiles where the middle quartiles are more interspersed with the top and bottom quartile of firm-years. The third panel with grouping on.

the basis of board powers gives very conspicuous results. When promoters are in minority, the abnormal accruals are significantly less than when the promoters are in simple majority or two-thirds majority. The firms with very high promoter holding, above 75%, exhibit discretionary accruals far higher than all the other groups. Thus, we find a strong association between promoter holding and discretionary accruals. Similar positive relationship was observed by Al-Fayoumi, Abuzayed, and Alexander (2010), and Siregar and Utama (2008) [4, 67] who interpreted it to be a form of efficient contracting. On the contrary, we interpret higher discretionary accruals as weaker reporting of fundamental earning processes.

Panel A: Grouped by absolute value of percent holding

Table 4: Promoter Holding and Abnormal Accruals

Promoter Holding (%)	N	Duncan's Post Hoc Test			Standard error in mean
		Group 1	Group 2	Group 3	
90 -100	64			0.1448	0.01775
80 - 90	230		0.1398	0.1398	0.00935
70 - 80	661	0.1111	0.1111	0.1111	0.00395
60 - 70	699	0.1106	0.1106	0.1106	0.00422
50 - 60	872	0.1175	0.1175	0.1175	0.00397
40 - 50	663	0.1046	0.1046		0.00414
30 - 40	470	0.0959			0.00448
20 - 30	219	0.1085	0.1085	0.1085	0.00761
10 - 20	56	0.0919			0.01159
0 - 10	17			0.1431	0.03258

Panel B: Grouped into four quartiles of promoter holding

Quartiles	N	Duncan's Post Hoc		Standard error in Mean
		Group 1	Group 2	
Top Quartile	996		.1203	.0037
Q2	969	.1118	.1118	.0036
Q3	1000	.1116	.1116	.0035
Bottom Quartile	986	.1021		.0034

Panel C: Grouped into four groups based on resolution power of promoters

Power (%Holding)	N	Duncan's Post Hoc Test		Standard error in Mean
		Group 1	Group 2	
Minority (below 49)	1350	.1019		.0027
Majority (49 - 66)	1382	.1142		.0031
Special (66 - 75)	1001	.1149		.0034
Unchallenged (75+)	218		.1372	.0094

The conventional measure of board independence - independent directors as a percent of total - is negatively correlated with discretionary accruals (-0.10). The measure of board independence developed by us - number of independent directors over and above the stipulated minimum - was also negatively correlated with discretionary accruals (-0.10), and both are significant at 0.01 level. We also tested the discretionary practices between two groups of firms, those complying with the statutory requirements for board independence and those not complying. The results in Table V confirm that the groups are significantly different with respect to earnings management practices. Earlier studies by Rosenstein and Wyatt (1990) and Klein (2002) [41, 61] had also concluded that the presence of outside members in a board enhances earnings quality and firm performance.

Panel A: Compliance to Independent Directors Regulations and Discretionary Accruals

Table 5: Board Independence and Discretionary Accruals

Independent Directors	N	Mean	t-statistic
Compliant	3503	0.100 (0.002)	-4.873**
Non-Compliant	524	0.13 (0.006)	

** Significant to 99%

Panel B: Univariate Regression between Two Different Measures of Board Independence and Discretionary Accrual

	Constant	Excess Number of Independent directors	Percent of Independent Directors
1) Excess Independent Directors	0.121** (.003)	-0.007** (.002)	
2) Percent of Independent Directors	0.138 (.007)		-0.055 (.014)

** Significant to 99%

Table 6: Coefficients for Regression of Discretionary Accruals with Firm Size

	Constant	Sales Coefficient	Market Capital Coefficient
LogSales	0.175* (0.000)	-0.006* (0.000)	
Log Market Capital	0.16** (.000)		-0.005* (0.000)
Multivariate regression	0.172** (0.000)	-0.003** (0.046)	-0.002 (0.105)

** Significant to 99%

* Significant to 95%

Relationship of abnormal accruals with size was negative along expected lines, with coefficients of correlation (-0.07) and (-0.08) for natural logs of market capital and sales respectively. The results from regression are given in Table VI. The coefficients are negative and significant, after considering the scale difference in the regression equation. Our result is consistent with Sarkar and Sarkar (2013) [64] who derived that larger firms are less involved in managing earnings.

The companies those have ADRs or GDRs listed abroad are expected to have a greater accuracy in information disclosure and less earnings management. The t-test in Table VII shows a significant result (3.44). Hence the null hypothesis may be rejected. Our result is in consistent with Silva *et el.,* (2015) [52]. The pressure from investors and regulatory environment is making these companies apply less discretion, whereas other firms, listed in only one country's exchange with oversight by only one regulator are indulging in earnings management.

Table 7: Independent Sample t-test of Cross-listed Firms and Discretionary Accruals

Cross-listing (dummy)	N	Mean	t-statistic
0 (not listed abroad)	4095	0.11 (0.002)	3.44**
1 (listed in India and abroad)	236	0.09 (0.007)	

** Significant to 99%

On all five measures for corporate governance, we find that discretionary accruals reduce with stronger governance among large non-financial firms registered in India. This strengthens our belief in accrual models, as much as corporate governance. It may be said that a higher institutional ownership improves the accountability of management in minimizing accounting errors- intentional or unintentional. Promoter ownership is seen to increase discretionary accruals, which points towards an attempt by promoters to inflate or protect the value of their holdings. Independent members of board appear to be successful in minimizing discretionary accruals and guarding the minority interests by exercising their power in audit committees and on the board. Along expected lines, larger companies were seen restrained, likely due to the high visibility of their actions. Similarly, firms with securities listed in multiple countries showed less discretionary accruals, as they get scrutinized in multiple geographies.

All the findings have been reported using the modified Jones (Dechow *et al.,* 1995) [19] model, however, the findings do not materially differ for the other five models. We also ran sensitivity of our results to various other factors such as sector definition, taxes, exclusion of short-term debt from accruals calculation, alternate definitions for independent variables, etc. The direction of effect remained the same even though there was a variation in power of tests. Researchers (Dechow, Sweeney 1995; Dechow, Ge & Schrand 2010; McNichols & Stubben 2018) [17, 19, 53] have cautioned against indiscriminate use of an accrual model. As long as the treatment group of firm-years does not systematically differ from the control group; estimated discretionary accruals should be unbiased. In our study, there was no reason to believe any non-randomness of the firms between any two groups formed for testing any of the hypotheses.

Yet, as we attempt to measure an unobservable quantity, our results are subject to measurement error inherent in the accrual models used. We expect some of the other models (e.g., Dechow & Dichev, 2002) [15] to provide a different measure as their underlying economic rationale for modelling accruals is different. Similarly, the presented study has not tested the results for alternative measures for the construct of corporate governance, such as a single G-index with five sub-indices using 28 governance provisions (Gompers *et al.,* 2003) [26] or 14 indices extracted from 39 governance indicators (Larcker *et al.,* 2007) [45]. Similarly, alternative measures for earnings quality such as Beneish M-score and e-loadings (Ecker *et al.,* 2006) [21] could be taken up to further the research direction reported here. Opacity in the 'managed' portion of earnings gives rise to increased uncertainty about 'fundamental earnings process' for the investors. The returns on such firms should therefore offer a risk premium. We believe that this risk premium is not fully captured by the e-loadings, as a part of the risk premium could also be subsumed under the market risk premium.

Conclusion

Detection of earnings management is of great academic and practical significance. The explanatory power of various competing models has not been beyond doubt, yet they have provided a smoking gun in numerous studies. Our analysis shows that variables measuring corporate governance, viz. institutional ownership, promoter holding, firm size, board independence and cross-listing are associated with the most common measure of earnings management - discretionary accruals. An improved corporate governance is expectedly helping curb the earnings management in the Indian context. Discretionary accruals remain the most popular among all the proxies for earnings quality, such as smoothness, persistence and earnings response coefficient. The study has a future scope to improve the measure of earnings management and earnings quality with the help of other accrual-based models and other proxies to develop a more reliable scale. Taking a cue from the findings regarding cross-listing, the sample could be extended to include unlisted firms in India as well as other jurisdictions.

References

1. Aharony J, LIN CJ, Loeb MP. Initial public offerings, accounting choices, and earnings management. Contemporary accounting research,1993:10(1):61-81.
2. Ajay R, Madhumathi R. Institutional ownership and earnings management in India. Indian Journal of Corporate Governance,2015:8(2):119-136.
3. Alareeni B. Does corporate governance influence earnings management in listed companies in Bahrain Bourse?. Journal of Asia Business Studies,2018:12(4):551–570. https://doi.org/10.1108/JABS-06-2017-0082
4. Al-Fayoumi N, Abuzayed B, Alexander D. Ownership structure and earnings management in emerging markets: The case of Jordan. International Research Journal of Finance and Economics,2010:38(1):28-47.

5. Alves S. Ownership structure and earnings management: Evidence from Portugal. Australasian Accounting, Business and Finance Journal,2012:6(1):57-74.
6. Avabruth SM, Saravanan P, Srikanth M. Executive compensation, corporate governance and firm performance: evidence from India. International Journal of Corporate Governance, 2016, 7(4). https://doi.org/10.1504/ijcg.2016.10003330
7. Balsam S, Bartov E, Marquardt C. Accruals management, investor sophistication, and equity valuation: Evidence from 10–Q filings. Journal of Accounting Research,2002:40(4):987-1012.
8. Beneish MD. Earnings management: A perspective. Managerial Finance,2001:27(12):3–17. https://doi.org/10.1108/03074350110767411
9. Bernstein PL. Capital ideas: the improbable origins of modern Wall Street. Simon and Schuster, 1993.
10. Bhattacharya U, Daouk H, Welker M. The world price of earnings opacity. The accounting review,2003:78(3):641-678.
11. Burgstahler D, Dichev I. Earnings management to avoid earnings decreases and losses. Journal of accounting and economics,2017:24(1):99-126.
12. Bushman RM, Piotroski JD. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. Journal of accounting and economics,2006:42(1-2):107-148.
13. Chi CW, Hung K, Cheng HW, Tien Lieu P. Family firms and earnings management in Taiwan: Influence of corporate governance. International Review of Economics and Finance,2015:36:88–98.
14. Chiu P, Teoh SH, Tian F. Board Interlocks and Earnings Management Contagion. The Accounting Review,2013:88(3):915-944.
15. Dechow PM, Dichev ID. The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. The Accounting Review,2002:77(1):35–59. doi:10.2308/accr.2002.77.s-1.35
16. Dechow PM, Skinner DJ. Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. Accounting Horizons,2000:14(2):235–250. https://doi.org/10.2308/acch.2000.14.2.235
17. Dechow PM, Ge W, Schrand CM. Understanding Earnings Quality: A Review of the Proxies, Their Determinants and Their Consequences. Journal of Accounting and Economics, 2010, 50(2-3), 344-401.
18. Dechow PM, Hutton AP, Kim JH, Sloan RG. Detecting Earnings Management: A New Approach. Journal of Accounting Research,2012:50(2):275–334. https://doi.org/10.1111/j.1475-679X.2012.00449.x
19. Dechow P, Sloan R, Sweeney A. Detecting earnings management. The Accounting Review, 1995, 70, 193-225.
20. DeFond ML, Jiambalvo J. Debt covenant violation and manipulation of accruals. Journal of accounting and economics,1994:17(1-2):145-176.
21. Ecker F, Francis J, Kim I, Olsson PM, Schipper K. A Returns-Based Representation of Earnings Quality. The Accounting Review,2006:81(4):749-780.
22. Erickson M, Wang SW. Earnings management by acquiring firms in stock for stock mergers. Journal of Accounting and Economics,2015:27(2):149-176.
23. Foerster SR, Karolyi GA. The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States. The Journal of Finance,2001:54(3):981-1013.
24. García-Meca E, Sánchez-Ballesta JP. Corporate governance and earnings management: A meta-analysis. Corporate governance: an international review,2009:17(5):594-610.
25. Goel S. Earnings management in corporate enterprises in India: A test for multi-nationality, reputation and related variables. International Journal of Emerging Markets,2018:13(6):1820–1834. https://doi.org/10.1108/IJoEM-06-2017-0206
26. Gompers P, Ishii J, Metrick A. Corporate Governance and Equity Prices. The Quarterly Journal of Economics,2003:118(1):107-155.
27. Hazarika S, Karpoff JM, Nahata R. Internal corporate governance, CEO turnover, and earnings management. Journal of Financial Economics,2012:104(1):44-69.
28. Healy PM, Wahlen JM. A review of the earnings management literature and its implications for standard setting. Accounting horizons,2019:13(4):365-383.
29. Houqe MN, Ahmed K, van Zijl T. Audit Quality, Earnings Management, and Cost of Equity Capital: Evidence from India. International Journal of Auditing,2017:21(2):177–189. https://doi.org/10.1111/ijau.12087
30. Hsu GCM, Koh PS. Does the presence of institutional investors influence accruals management? Evidence from Australia. Corporate Governance: An International Review,2005:13(6):809-823.
31. Jackson AB. Discretionary Accruals: Earnings Management or Not?. Abacus,2015:54(2):136–153. https://doi.org/10.1111/abac.12117
32. Jaiswall M, Banerjee A. Exploring the relationship between Earnings Management and Corporate Governance characteristics in the Indian context. Indian Institute of Mangement, Calcutta, 2012.
33. Jensen MC. The modern industrial revolution, exit, and the failure of internal control systems. Journal of Finance,1993:48:831-880.
34. Jensen MC, Meckling WH. Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics,2002:3(4):305–360. doi:10.1016/0304-405x(76)90026-x
35. Jiraporn P, Miller GA, Yoon SS, Kim YS. Is earnings management opportunistic or beneficial? An agency theory perspective. International Review of Financial Analysis,2008:17(3):622-634.
36. Jones J. Earnings management during import relief investigations. Journal of Accounting Research,1991:29:193-228.
37. Karolyi GA. Why Do Companies List Their Shares Abroad? A survey of the evidence and Its Managerial Implications. Salomon Brothers Monograph Series, New York University, 1998.
38. Kasznik R. On the association between voluntary disclosure and earnings management. Journal of Accounting Research,1999:37:57−81.
39. Kazemian S, Sanusi ZM. Earnings Management and Ownership Structure. Procedia Economics and Finance,2015:31(15):618–624. https://doi.org/10.1016/s2212-5671(15)01149-1

40. Kim Y, Liu C, Rhee SG. The relation of earnings management to firm size. Journal of Management Research,2003:4:81-88.
41. Klein A. Audit committee, board of director characteristics, and earnings management. Journal of accounting and economics,2002:33(3):375-400.
42. Koh PS. On the association between institutional ownership and aggressive corporate earnings management in Australia. The British Accounting Review,2003:35(2):105–128.
43. Krishnan G. Audit quality and the pricing of discretionary accrual. Auditing,2003:22:109−126.
44. Lang M, Raedy JS, Wilson W. Earnings management and cross listing: Are reconciled earnings comparable to US earnings?. Journal of accounting and economics,2006:42(1-2):255-283.
45. Larcker DF, Richardson SA, Tuna I. Corporate Governance, Accounting Outcomes, and Organizational Performance. The Accounting Review,2007:82(4):963-1008.
46. Lee BB, Choi B. Company size, auditor type, and earnings management. Journal of Forensic Accounting,2002:3(1):27-50.
47. Leuz C, Nanda D, Wysocki PD. Earnings management and investor protection: an international comparison. Journal of financial economics,2003:69(3):505-527.
48. Liu S, Skerratt L. Earnings quality across different reporting regimes: Listed, large private, medium-sized, small and micro companies in the UK. Journal of Applied Accounting Research, 2018.
49. Lopes AB, Tukamoto Y, Galdi FC. Earnings management and cross listing in Brazil. Congresso Anpcont, 2007, 1.
50. Madhogarhia P, Sutton NK, Kohers T. Earnings management practices among growth and value firms. Applied Financial Economics,2009:19(22):1767–1778. https://doi.org/10.1080/09603100903018745
51. Marrakchi Chtourou S, Bedard J, Courteau L. Corporate governance and earnings management. Corporate Governance and Earnings Management, 2001.
52. Massa M, Zhang B, Zhang H. The Invisible Hand of Short Selling: Does Short Selling Discipline Earnings Management?. The Review of Financial Studies,2015:28(6):1701-1736.
53. McNichols MF, Stubben SR. Research design issues in studies using discretionary accruals. Abacus,2018:54(2):227-246.
54. Melgarejo M. The impact of corporate governance on earnings quality: evidence from Peru. Journal of Accounting in Emerging Economies,2019:9(4):527-41.
55. Miller DP. The Market Reaction to International Cross-listings: Evidence from Depositary Receipts. Journal of Financial Economics,1999:51:103–23.
56. O'Callaghan S, Ashton J, Hodgkinson L. Earnings management and managerial ownership in private firms. Journal of Applied Accounting Research,2018:19(4):648–668. https://doi.org/10.1108/JAAR-11-2017-0124
57. Peasnell KV, Pope PF, Young S. Detecting earnings management using cross-sectional abnormal accruals models. Accounting and Business Research,2000:30(4):313-326.
58. Prencipe A, Bar-Yosef S. Corporate governance and earnings management in family-controlled companies. Journal of Accounting, Auditing and Finance,2011:26(2):199–227. https://doi.org/10.1177/0148558X11401212
59. Purayil PV, Lukose PJJ. Ownership dilution and earnings management: evidence from Indian IPOs. Managerial Finance,2019:46(3):344–359. https://doi.org/10.1108/MF-02-2019-0068
60. Rath S, Sun L. The development of earnings management research. International Review of Business Research Papers,2008:4(2):265-277.
61. Rosenstein S, Wyatt JG. Outside directors, board independence, and shareholder wealth. Journal of financial economics,1990:26(2):175-191.
62. Sarkar J, Sarkar S. Large shareholder activism in corporate governance in developing countries: Evidence from India. International Review of Finance,2000:1(3):161-194.
63. Sarkar J, Sarkar S, Sen K. Board of directors and opportunistic earnings management: Evidence from India. Journal of Accounting, Auditing and Finance,2008:23(4):517-551.
64. Sarkar J, Sarkar S, Sen K. Insider Control, Group Affiliation and Earnings Management in Emerging Economies: Evidence from India. SSRN Electronic Journal, 2013. https://doi.org/10.2139/ssrn.2197713
65. SEBI (Issue of Capital and Disclosure Requirements) Regulations 2009 (amended on May 31, 2017), Retrieved from https://www.sebi.gov.in/legal/regulations/jun-2017/sebi-issue-of-capital-and-disclosure-requirements-regulations-2009-last-amended-on-may-31-2017-_34697.html
66. Silva AC, Chavez GA, Wiggins RA. Earnings Management, Country Governance, and Cross-listing: Evidence from Latin America. Global Journal of Emerging Market Economies,2015:7(1):4–20. https://doi.org/10.1177/0974910114556930
67. Siregar SV, Utama S. Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. The international journal of accounting,2008:43(1):1-27.
68. Sloan R. Do stock prices fully reflect information in accruals and cash flows about future earnings?. The Accounting Review,1996:71:289-315.
69. Subramanyam KR. The pricing of discretionary accruals. Journal of Accounting and Economics,1996:22:249-281.
70. Suyono E, Al Farooque O. Do governance mechanisms deter earnings management and promote corporate social responsibility?. Accounting Research Journal,2018:31(3):479-495. https://doi.org/10.1108/ARJ-09-2015-0117
71. Teoh SH, Welch I, Wong TJ. Earnings management and the long-run market performance of initial public offerings. The journal of finance,1998:53(6):1935-1974.
72. Tomasic R, Bottomley S. Directing the top 500: corporate governance and accountability in Australian companies. Sydney: Allen & Unwin, 1993.

73. Velury U, Jenkins DS. Institutional ownership and the quality of earnings. Journal of Business Research,2006:59(9):1043-1051.
74. Wang D. Founding family ownership and earnings quality. Journal of Accounting Research,2006:44(3):619–656. https://doi.org/10.1111/j.1475-679X.2006.00213.x
75. Warfield TD, Wild JJ, Wild KL. Managerial ownership, accounting choices, and informativeness of earnings. Journal of Accounting and Economics,1995:20(1):61–91. doi:10.1016/0165-4101(94)00393-j
76. Watts RL, Zimmerman JL. Positive accounting theory. NJ: Prentice Hall, 1986.
77. Yang CY, Lai HN, Leing Tan B. Managerial ownership structure and earnings management. Journal of Financial Reporting and Accounting,2008:6(1):35-53.