Earnings Management to Meet Earnings Benchmarks: The Impact on Future Performance

Kunnathodi Sudheesh

Pondicherry University, Pondicherry, India
Email: sudhwish@gmail.com

Kallumukku Balan Nidheesh

Pondicherry University, Pondicherry, India
Email: nidheeshkb.com@pondiuni.edu.in

Abstract

The present study investigates whether firms manipulate earnings to attain specific benchmarks (viz. zero and previous year's earnings) engage in opportunistic or signalling earnings management. Specifically, the study examines the relationship of discretionary accruals with the one year-ahead company performance. The study spans from 2012 to 2018 for 304 firms listed in India. The panel corrected standard error (PCSE) regression estimator is used for the analysis. Our analysis finds evidence of efficient earnings management. Specifically, we find that the discretionary accruals of firms that manage earnings to meet the previous year's profit have a significant positive association with future performance and signals the inside information about the future performance. Further, the results show weak evidence of the relationship between accrual earnings management and future performance among firms meeting zero earnings target. We also study how earnings management relates to the subsequent performance in the absence of earnings benchmarks. The findings show that managers, on average, undertake accrual earnings management to signal future performance.

Keywords: Accrual earnings Management, Earnings benchmarks, Future performance, Opportunistic earnings management, Signalling earnings management

JEL classification: M40, M41, M49

1. Introduction

This study investigates the intentions of management behind earnings management activities of listed Indian companies. There is a common observation that earnings management is an unethical act by the managers to avail advantages at the shareholders' cost. The managers have two earnings management choices: opportunistic earnings management and efficient earnings management (Subramanyam, 1996; Siregar & Utama, 2008). The management uses EM either opportunistically to improve their wealth at the shareholders' expenses or efficiently to signal unrevealed facts about the firms while reporting. The study examines how managers use earnings management (EM) choices. Specifically, the study examines whether firms that meet earnings targets manage earnings to signal future performance. The study addresses the accrual earnings management (hereafter AEM) behaviour of Indian companies. To investigate the behaviour of EM, we examine whether discretionary accruals (abnormal accruals) impact the subsequent year's performance.

The financial statement reporting stands as an epicentre of information to the decision-makers. The stakeholders mainly depend on the reliability of the managers' final statements for taking various decisions. As per the Agency theory, sufficient and credible information about the firms' performance is the shareholders' right since they are the owners and managers act as agents. Nevertheless, managers have some discretion over the choice of accounting estimates that can be used to optimise firms' value or to maximise their private wealth (Healy & Wahlen, 1999).

The extant literature observes two approaches of EM known as opportunistic and efficient or predictive. The opportunistic EM indicates that the self-interested manager report a garnished earnings to hide firms' real economic performance (Siregar & Utama, 2008; Scott, 2014; Alhadab & Clacher, 2018). According to Christie & Zimmerman (1994), "opportunism occurs when a manager's decision increases the manager's wealth but does not create a net increase in aggregate wealth". They argue that managers engage in opportunistic EM (i) to maximise their compensation and (ii) as a shield to prevent the expulsion from the job due to the low performance. Efficient EM includes the managerial actions that improve the firm's overall wealth, including the managers. Christie & Zimmerman (1994) argue that efficient EM activities initially may reduce the wealth of some of the parties, but, ultimately no parties' losses when the aggregate wealth improves. Thus, EM can efficiently be used to signal the inside information about the subsequent performance of firms.

The accounting research has argued that EM cannot be a detrimental practice when executives use the reporting preference to improve firms total value (e.g., Subramanyam, 1996; Krishnan, 2003; Siregar & Utama, 2008; Pham et al., 2017). Contrary to this view, many researchers have reported that managers primarily indulge in opportunistic EM (e.g., Healy, 1985; DeFond & Jiambalvo, 1994; Perry & Williams, 1994; Burgstahler & Dichev, 1997; Balsam et al., 2002; Fairfield et al., 2003; Gill et al., 2013; Shette et al., 2016; Windisch, 2020).

The accrual manipulation is prevalent where the rules are weaker and the investors have diluted protection (Dyreng et al., 2012). India is an emerging economy where weaker investor protection and rules exist comparing other developing nations. Similarly, the Corruption Perceptions Index of Transparency International ranked India 94th in 2012 and 2013, 78th in 2018, 80th in 2019 and 86th in 2020. These ratings show the potential of accounting manipulations in India. In addition, family-controlled firms are highly motivated to manage earnings opportunistically (Yang, 2010). Adding to that, Deloitte (2013) reported that 85 per cent of companies in India are family-oriented. Further, the information asymmetry and irrational investors may account for the high level of managerial opportunism in India. All these abnormalities invite an examination into the earnings management choices (opportunistic or signalling) of Indian managers. There is enormous research on EM practices in India; however, no study is conducted to examine EM's behaviour among the listed non-financial firms in India. There is a gap of research to explore how Indian company managers use their EM choices, whether it is opportunistic or beneficial. Hence, the study investigates whether the EM has a significant signalling effect or opportunistic effect in firms exhibited as managed earnings to attain benchmarks.

A large body of studies explains the managerial motivations behind corporate-level EM. External pressure, the central motive, insists the management to manipulate accounting figures to report positive earnings, avoid declining revenues, and avoid negative earnings surprises. The capital market motives, such as meeting or beating key income thresholds, are strong among entities inclined to manipulate their earnings (Degeorge et al. 1999). Reporting a loss or fallen profit

usually conveys a negative signal to the market that, in turn, gravely affects firms' credit rating. Though earnings management to meet benchmarks exhaust firm value, the analysts observe that investors' perception regarding the firms' future performance is strongly relating to meeting earnings benchmarks (De Jong et al., 2014). In line with this, following Roychowdhury (2006) and Gunny (2010), the present study classifies firms into (1) meet zero earnings benchmarks & (2) meet previous year's earnings benchmarks to examine the earnings management choice of managers.

The study contributes to the present literature in various ways. Mainly, it adds to the literature on AEM behaviour by examining whether managers use discretionary accruals opportunistically or efficiently. The study provides evidence on the effect of discretionary accruals on the subsequent performance of Indian companies. We resolutely trust that the study is the 1st effort to inspect the relationship between discretionary accruals and the future performance of publicly listed Indian corporates that engage in EM to meet the benchmarks. Previous studies in this area mainly concentrated on the relation in the absence of earnings benchmarks.

Gill et al. (2013) studied the future performance and earnings management of Indian manufacturing companies. The main limitation of their study is that the result is not robust. The present study fills the gap by investigating how the management uses abnormal accruals for the financial reporting purpose of Indian corporates. In addition, it contributes to the Indian accounting literature by examining managers' earnings management choices to meet the earnings benchmarks.

Our study finds that the discretionary accruals of firms that manage earnings to meet the previous year's profit have a significant positive association with future performance and signals the inside information about the future performance. Further, the results provide weak evidence of the relationship between accrual earnings management and future performance among firms meeting zero earnings target. Similarly, firms that manipulate earnings in the absence of benchmark interactions show a significantly positive association between discretionary accruals (AEM) and future profitability. The finding is in line with the signalling argument of AEM and suggests that Indian firms as a whole use AEM to signal their future profitability.

2. Review of literature and hypothesis development

According to extant evidence, researchers have not attained a consensus on managers' earnings management choice, especially in India. A large body of evidence from the developed nations argues that earnings management is informative. However, some others document that earnings management weakens the reported earnings' informativeness after opportunistic use of discretionary accruals.

2.1. Earnings management and opportunistic choice

Healy and Wahlen (1999), stated "EM occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers". Moreover, when the purpose solely to maximise managers' wealth, the EM is opportunistic and detrimental. The extant literature empirically

illustrates the presence of opportunistic EM. Burgstahler and Dichev (1997), in their study on US companies during 1976-1994, find that managers frequently take on EM opportunistically to avoid reporting losses or drop in the earnings or to reduce the cost in the contractual relationship with various stakeholders. Specifically, they find evidence that 30% to 40% of the firms reported pre-managed small losses opportunistically undertake their accrual discretion to report slight positive earnings. They further find that firms have widely used cash flow and working capital changes to manipulate earnings to escape conveying a loss. A piece of consistent evidence is reported by Balsam et al. (2002) in a study on 366 US firms. They found a negative relationship between abnormal discretionary accruals (*Dis_Acc*) and industry adjusted stock returns around the date of an earnings announcement. Their result suggests that the investors and the analysts observe EM as opportunistic and argue that market prices the accruals management very quickly and intensely.

On Iranian companies, Moardi et al. (2019) studied the relationship of AEM with year-ahead cash flow and "annual stock returns". Their study reports a negative impact of current year discretionary accruals on the subsequent year cash flow in the industries like machinery, automobile, minerals and chemicals. Similarly, they found a negative impact of opportunistic earnings management on future stock returns. The result evidences opportunistic EM. Further, the study reports higher stock returns in the absence of earnings management.

Ghazali et al. (2015) find firms engage in opportunistic EM when they have huge profits and at a time of intense financial stability. On the perspective of conformity between accounting income and taxable income, Hanlon et al. (2008) find that opportunistic use of discretionary accruals unfavourably affects firm performance and causes the distortion of inside information. While investigating the effectiveness of stringent rules of financial reporting on the managerial discretions on accruals and the effect of the earnings-informativeness, Windisch (2020) apparently finds that the quality of earnings in terms of informativeness is declined even after the introduction of strict financial reporting rules. He finds a negative relationship between post-enforcement discretionary accruals and future performance. His findings suggest the presence of opportunistic EM during the post enforcement regime.

2.2. Earnings management and efficient choice

Prior studies establish evidence that discretionary accruals can efficiently be used to signal the inside information about the firms' future performance. Studies (e.g., Arya et al., 2003 and Sankar & Subramanyam, 2001) argue that managers take on the discretionary choice of accruals to improve the informativeness of reported earnings. Subramanyam (1996) empirically finds a relationship between *Dis_Acc* and future cash flow from operations. The evidence suggests that *Dis_Acc* are highly informative and used to communicate the inside information about firms' future performance.

Sankar & Subramanyam (2001) find evidence that managers use their discretionary power to improve the informativeness of earnings content, which in turn, price the market. Louis & Robinson (2005) argue that the combination of accrual-signal and other signals may effectively share the internal information. They have found that during the split announcement, the market interprets the pre-split discretionary accruals as a sign of managerial optimism about the prospects. Similarly, managers use their reporting discretion to convey future earnings and cash

flow information (Tucker & Zarowin, 2006). Siregar & Utama (2008) contribute more evidence of the signalling effect of AEM. They find a positive association of *Dis_Acc* on YearT+1 performance measured by CFO, net income and non-discretionary net income. Their findings suggest that managers of Indonesian firms are efficiently using their discretion over accruals. Similarly, in the context of agency theory, AEM is not detrimental to the stakeholders (Jiraporn et al., 2008).

In the context of firms with profitable investment opportunities, Linck et al. (2013) find that financially constrained firms with high accruals can find more equity and debt than low-accruals firms. Their result suggests that discretionary accruals management may signal firms' prospects and increase the quality of reported earnings. Further, their findings indicate that accruals management may reduce the constraints on capital for good investment opportunities. Robin & Wu (2015) adds to the literature by supporting discretionary accruals' signalling role. They find that discretionary accruals positively associate with future performance in highly growing firms with upward EM tendency. Similarly, Pham et al. (2017) find that the managers in Australia undertake a signalling choice of accrual earnings management. They report a positive association between discretionary accruals and increases in dividends in GAAP-complying growth firms.

In the very recent study, Windisch (2020) investigates the effect of strengthening reporting regulation on the managers' accruals choice and their impact on the earnings' informativeness. The author finds that discretionary accruals have a significantly positive relationship with future performance in the absence of an enforcement regime. The relationship indicates the signalling effect of accruals. However, he does not find a signalling effect in the presence of the enforcement regime. Similarly, Al-Shattarat et al. (2018) find that EM to attain income targets improves future performance. Their findings are consistent with Gunny (2010) that managers opt for signalling choice of earnings management. However, these two studies are concentrated on operating activities.

2.3. Earnings management choices in India

In India, few studies evidence the managers' opportunistic use of abnormal accruals. Gill et al. (2013) reported the evidence of both positive and negative influence of abnormal accruals on subsequent profitability of manufacturing companies in India. The study is conducted using two years of data for 2010 and 2011. They find opportunistic EM in 2010 and efficient EM in 2011. Shette et al. (2016) report evidence of income increasing opportunistic earnings management around the IPO. The study finds a decline in earnings quality during IPO than post IPO period. Similarly, Jena et al. (2020) find that companies in India undertake earnings management opportunistically prior to the stock repurchase. They argue that managers take on earnings management to reduce the share price for facilitating inexpensive buyback. However, Sarkar et al. (2008) examine whether governance mechanism mitigates opportunistic earnings management. The study finds that board quality mitigates the detrimental usage of discretionary accruals in a large developing country like India. A consistent finding is reported by Singh et al. (2016) that a solid corporate governance mechanism can prohibit managerial opportunism. In addition, foreign institutional ownership and large institutional shareholding can curb opportunistic earnings management (Ajay & Madhumathi, 2015).

2.4. Hypotheses

The agency theory suggests that the influence of EM on future performance differs based on managers' intention. It depends on whether managers predominantly manage income opportunistically to satisfy self interest and deceive the investors on their judgement of firm performance (DeFond & Park, 1997; Healy & Palepu, 1993; Subramanyam 1996). Due to the agency conflict, investors are usually not fully informed (information asymmetry). However, managers communicate the inside information about firms' future performance using the reported earnings. In turn, the communication increases the overall earnings informativeness about firms' future performance (Kothari, 2001; Sankar & Subramanyam, 2001). Further, managers without intent to earn short term private benefits protect the future long term value of firms by signalling the future performance (signalling effect).

Evidence shows positive as well as negative association among AEM and subsequent period performance of corporates across nations. According to Siregar & Utama (2008) and Robin & Wu (2015) "a significant positive relationship between discretionary accruals and future performance suggests that the managers follow a signalling mechanism of AEM, and a significant negative relationship suggests the presence of opportunistic AEM". Therefore, there is likely to be a positive or negative relationship between discretionary accruals and future performance. Moreover, no evidence is presently available that the firms likely to undertake opportunistic AEM to meet earnings benchmarks such as zero earnings and previous year's earnings. Considering the relationship between current year discretionary accruals and subsequent performance of firms in the absence and presence of earnings benchmarks, we hypothesise that:

H1: There is an association between current year discretionary accruals and firms' future performance in the absence of meeting earnings target.

H2: There is an association between current year discretionary accruals and the future performance of firms that meet the zero earnings target.

H3: There is an association between current year discretionary accruals and the future performance of firms that meet the previous year's earnings target.

3. Research methodology

3.1. Sample

The present study is conducted on Indian corporates in the NIFTY 500 index of National Stock Exchange, India. The study uses data obtained from Bloomberg and CMIE ProwessIQ databases. Our sample period is 2012-2018. The study covers only non-financial firms since the financial firms have their own strict regulations and specific disclosure formalities. After excluding firms with insufficient financial data to measure AEM proxy and control variables, we have obtained a balanced panel data set consists of 304 unique companies with 2128 firm-year observations to test the hypotheses.

3.2. Accrual EM

Following previous studies, our study uses abnormal accruals (*Dis_Acc*) as the proxy for AEM. To measure *Dis_Acc* the study uses Kasznik (1999) model, a variant of Jones (1991) model and the Dechow et al. (1995) modified Jones model. In the new model, Kasznik (otherwise known as, cash flow adjusted Modified Jones model) inputs the finding of Dechow (1994) that cash flow negatively correlates with the accruals. Therefore, the model controls for changes in CFO from previous year to current year. The Kasznik (1999) estimation model assumes that non-discretionary or the normal accruals (hereafter *N_DAcc*) are the function of changes in "revenue minus receivables"; the "gross property, plant and equipment", and changes in "cash flow from operations". The model states *Dis_Acc* as the difference between total accruals and *N_DAcc* of the following regression model (residual values).

$$\text{TACC}_{i,t}/\text{TA}_{i,t-1} = \beta_0 + \beta_1(\Delta\text{Rev}_{i,t}\text{-}\Delta\text{Rec}_{i,t})/\text{TA}_{i,t-1} + \beta_2\text{PPE}_{i,t}/\text{TA}_{i,t-1} + \beta_3\Delta\text{CFlow}_{i,t}/\text{TA}_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

Where *TACC* is the total accruals; *⊿Rev* is the changes in sales revenue from year *t-1* to year *t*; *⊿Rec* is the changes in receivables from year *t-1* to year *t*; *PPE* is the gross value of the property, plant and equipment; *⊿CFlow* is the variation of cash from operation from year *t-1* to year *t*, TA is the total assets; and ε is the residuals (denotes the *Dis_Acc*). The total accruals (*TACC*) are calculated using the cash flow approach to prevent the measurement error likely to occur if the balance sheet approach is followed (Hribar & Collins, 2002). Therefore, the study computes *TACC* directly from the cash flow statement as "income before extraordinary items" (IBEI) minus *CFlow*.

Apart from Kasznik (1999) model, the study uses the modified Jones (1995) model (MJM) and Kothari et al. (2005) model (KRM) to verify the results' robustness. These estimation models are as follows,

MJM model:
$$\text{TACC}_{i,t}/\text{TA}_{i,t-1} = \beta_0 + \beta_1(1/\text{TA}_{i,t-1}) + \beta_2(\Delta\text{Rev}_{i,t}\text{-}\Delta\text{Rec}_{i,t})/\text{TA}_{i,t-1} + \beta_3\text{PPE}_{i,t}/\text{TA}_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

KRM model:
$$\text{TACC}_{i,t}/\text{TA}_{i,t-1} = \beta_0 + \beta_1(1/\text{TA}_{i,t-1}) + \beta_2(\Delta\text{Rev}_{i,t}\text{-}\Delta\text{Rec}_{i,t})/\text{TA}_{i,t-1} + \beta_3\text{PPE}_{i,t}/\text{TA}_{i,t-1} +$$
$$\beta_4\text{ROA}_{i,t} + \varepsilon_{i,t} \quad (3)$$

Kothari et al. (2005) suggest the inclusion of constant in the Modified Jones model to avoid the specification error. Hence, the present study includes a constant in the model (2). Further, researchers widely computed *Dis_Acc* using OLS employing either time-series or cross-sectional data. However, Swamy (2012) argues that OLS is not the best regression method since it may generate erroneous standard errors. It is more advantageous to use panel data since it combines time-series and cross-sectional data (Hsiao, 2005). Further, Rodriguez-Perez & Van Hemmen, (2010) uses panel-regression methodology to measure the *Dis_Acc*. Therefore, we use panel regression to calculate the values of *Dis_Acc*.

3.3. Estimation models and variable description

The present study examines the effect of *Dis_Acc* on the future performance of the firms that meet the earnings benchmarks. The main purpose of investigating the relationship is to determine the behaviour of AEM. That is to check whether accrual earnings management is opportunistic or efficient. We estimate the following regression models using panel data methodology where future performance is the dependent variable.

(a) For estimating the relationship of *Dis_Acc* of firms suspected to meet zero earnings with the future performance:

$$\text{Fut\_Perf} = \beta_0 + \beta_1 \text{CFlow}_{i,t} + \beta_2 \text{N\_DAcc}_{i,t} + \beta_3 \text{Dis\_Acc}_{i,t} + \beta_4 \text{Sus\_Ze}_{i,t} + \beta_5 \text{Dis\_Acc}_{i,t} * \text{Sus\_Ze}_{i,t}$$
$$+ \beta_6 \text{Siz}_{,t} + \beta_7 \text{Lev}_{i,t} + \beta_8 \text{Grw\_Opp}_{i,t} + \beta_9 \text{Fr\_CFlow}_{i,t} + \beta_{10} \text{Gov}_{i,t} + \text{Dummy\_industry} +$$
$$\text{Dummy\_year} + \varepsilon_{i,t} \qquad (4)$$

(b) For estimating the relationship of *Dis_Acc* of firms suspected to meet previous year's earnings with the future performance:

$$\text{Fut\_Perf} = \beta_0 + \beta_1 \text{CFlow}_{i,t} + \beta_2 \text{N\_DAcc}_{i,t} + \beta_3 \text{Dis\_Acc}_{i,t} + \beta_4 \text{Sus\_Py}_{i,t} + \beta_5 \text{Dis\_Acc}_{i,t} * \text{Sus\_Py}_{i,t}$$
$$+ \beta_6 \text{Siz}_{,t} + \beta_7 \text{Lev}_{i,t} + \beta_8 \text{Grw\_Opp}_{i,t} + \beta_9 \text{Fr\_CFlow}_{i,t} + \beta_{10} \text{Gov}_{i,t} + \text{Dummy\_industry} +$$
$$\text{Dummy\_year} + \varepsilon_{i,t} \qquad (5)$$

Where the dependent variable 'Fut_Perf' indicates future performance. Based on existing literature, three measures of 'Fut_Perf' are used in the study $CFlow_{t+1}$, N_DNI_{t+1} (Subramanyam, 1996; Siregar & Utama 2008), and ROA_{t+1} (Bowen et al., 2008). Further, earnings are split into cash flow from operation, *Dis_Acc*, and *N_DAcc*. To examine the behaviour of AEM, the study considers *Dis_Acc* as the variable of interest. The variables are defined as follows,

> *CFlow* = Cash flow from operations scaled by TA_{t-1}
> *N_DNI* = Net income minus discretionary accruals and scaled by TA_{t-1}
> *ROA* = Income before extraordinary item scaled by TA_{t-1}
> *Dis_Acc* = Discretionary accruals [Eqn.1, 2, 3]
> *N_DAcc* = Non-discretionary accruals [TACC - Dis_Acc]
> *Sus_Ze* = "1" if IBEI/TA_{t-1} lays between zero and 0.01, otherwise "0"
> *Sus_Py* = "1" if ΔIBEI/TA_{t-1} lays between zero and 0.01, otherwise "0"

We have used the year and industry dummies for controlling their effect. The two-digit Global Industry Classification (GIC) is used for industry dummies. Further, the industry with less than ten firm observation is excluded from the analysis.

3.4. Control variables

The extant studies document certain variables that may influence the relationship between *Dis_Acc* and future performance. The size effect is controlled by including firm size (*Siz*) in the regression models. In the present study, *Siz* is computed as the natural logarithm of total assets. Kim et al. (2017) exhibit total assets as a representation of the firm size. Financial leverage influences the performance of firms (Vithessonthi & Tongurai, 2015). To control the leverage

effect, the study includes leverage (*Lev*) as a control variable. Following Lazzem & Jilani (2018), we measure leverage as long term debt to equity, (both are in book values). Fama & French (1992) support the signalling role of growth opportunities (*Grw_Opp*). The study values *Grw_Opp* using the market to book value of equity (Gunny, 2010) to control the effect of growth opportunities (*Grw_Opp*). The existing literature documents the effect of free cash flow on performance (e.g., Brush et al., 2000). Further, free cash flows (*Fr_CFlow*) included in the models to control their effect. Following Lev et al. (2010), the current study measures free cash flow as "cash flow from operation minus cash flow statement value of capital expenditures and is scaled down by total assets at the beginning".

The study of Drobetz et al. (2004) finds the influence of corporate governance (CG) factors on the firms' performance. As per the Companies Act 2013, it is mandatory to disclose the corporate governance practices in India. Greater disclosure seems a higher level of transparency, and that affects the performance of the companies. Therefore, the present study includes governance disclosure as a variable to control the effect of CG on performance. Instead of considering individual CG factors, in this study, the governance disclosure score (*Gov*) prepared by 'Bloomberg' is used as the proxy for CG. Bloomberg's governance disclosure score is a proprietary rating. The score is spreading 0 to 100, and a high rate represents a greater level of disclosure.

Following Siregar & Utama (2008) and Robin & Wu (2015), in the present study, the AEM is efficient and signals the future performance rather than opportunistic when there exists a "significant and positive relationship between discretionary accruals and future performance". Thus, if $\beta3$ in Eqn (4) and (5) is significantly positive, the result suggests that firms without benchmarks use *Dis_Acc* efficiently to communicate future profitability. Similarly, when $\beta5$ is significantly positive, the result indicates that the benchmark firms (zero and previous earnings) use *Dis_Acc* efficiently to signal future performance. However, a "negative coefficient" suggests the presence of opportunistic use of AEM by the managers.

4. Results

4.1. Description statistics and correlation of variables

Table 1 exhibits the statistics of full sample (Panel A), comparative summary of *Sus_Ze* firms and non-*Sus_Ze* firms (Panel B) and comparative statistics of *Sus_Py* firms and non-*Sus_Py* firms (Panel C). To report the magnitude of the AEM, further, we include the unsigned value of discretionary accruals, i.e., *Abs_Dis_Acc* (e.g., Lazzem & Jilani 2018; Leuz et al., 2003; Moardi et al. 2019). All the variables are winsorised at one and ninety-nine percentiles to avoid the effect of outliers.

The absolute EM (*Abs_Dis_Acc*) magnitude (mean) of overall firms measured using the Kasznik model (1999) reported in panel A is 5.55% of opening total assets. The value is similar to Das et al. (2018). The mean *Abs_Dis_Acc* of *Sus_Ze* and non-*Sus_Ze* firms is 6.45% and 5.52%. Further, *Sus_Py* and non-*Sus_Py* firms report mean *Abs_Dis_Acc* at 4.98% and 5.64%. The mean and median *Dis_Acc* of full samples are -0.34% and -0.85%, with a standard deviation of 0.0711. The mean *Dis_Acc* of *Sus_Ze* and non-*Sus_Ze* firms are -5.14% and -0.18%. Similarly, *Dis_Acc* of *Sus_Py* and non-*Sus_Py* firms reported the mean values -1.88% and -0.08%. The results indicate

that AEM is prevalent in Indian companies. On average, both *CFlow* and *CFlow$_{t+1}$* of all the sample groups are positive. It is observed that 68 firm-years satisfy the criteria for "meet zero earnings benchmark" (*Sus_Ze*), and 303 firm years fulfil the criteria for "meet the previous year earnings benchmark" (*Sus_Py*). The results are comparable with the data set of Al-Shattarat et al. (2018). The mean difference reported in Panel B & C of Table 1 indicates that suspect and non-suspect firm years are significantly different in several financial aspects.

Table 1 - Descriptive statistics

Panel A - Descriptive statistics of Full sample firms

Variables	N	Mean	SD	Min	Median	Max
CFlow$_{t+1}$	1824	0.1175	0.1048	-0.1421	0.1085	0.3642
N_DNI$_{t+1}$	1824	0.1004	0.0957	-0.1373	0.0806	0.3404
ROA$_{t+1}$	1824	7.9784	7.8384	-12.100	6.6700	34.2300
CFlow	2128	0.0916	0.0789	-0.1029	0.0875	0.2698
N_DAcc	2128	0.0216	0.0417	-0.0856	0.0208	0.1321
Dis_Acc	2128	-0.0034	0.0711	-0.1796	-0.0085	0.1688
Abs_Dis_Acc	2128	0.0555	0.0428	0.0008	0.0454	0.1624
Siz	2128	10.5378	1.4124	3.6349	10.3803	15.6374
Lev	2128	13.6745	15.4904	0.0000	7.3360	47.6782
Grw_Opp	2128	3.9327	3.2593	0.0000	2.9539	11.1086
Fr_CFlow	2128	0.0585	0.0505	-0.0575	0.0538	0.1846
Gov	2128	44.7561	6.6039	28.5714	44.6429	67.8571

Note: The descriptions of variables are included in para 3.3 and 3.4

Table 2 depicts Pearson's and Spearman's correlation coefficients. *Dis_Acc* are significantly positively correlated to all three future performance measures. Specifically, *Dis_Acc* are significantly positively correlated (Pearson 29.7%, Spearman 29.6%) with *CFlow$_{t+1}$* and with *N_DNI$_{t+1}$* by 55.3% (Pearson) and 56.9% (Spearman). Similarly, *Dis_Acc* correlates with *ROA$_{t+1}$* by 52.3% (Pearson) and 53.5% (Spearman). The relation is an indication of the signalling effect of AEM in the absence of benchmarks. The strong significant positive correlation (Pearson 56.1%, Spearman 56.9%) between *CFlow* and *CFlow$_{t+1}$* indicates the persistence of earnings over the period. The *N_DAcc* significantly negatively correlates with *CFlow* (Pearson -53%, Spearman -50.4%), consistent with Subramanyam (1996). *Grw_Opp* has a positive and significant association with *CFlow$_{t+1}$*, *N_DNI$_{t+1}$* and *ROA$_{t+1}$*, reflecting that high growth firms have better performance in the future. Similarly, *Gov* shows a positive correlation with all future performance measures; this suggests that firms with high governance disclosure show better future profitability.

Panel B - Descriptive statistics of *Sus_Ze* and Non-*Sus_Ze* firms

Variable	Zero earnings target firms (*Sus_Ze*)						Non- Zero earnings target firms (Non-*Sus_Ze*)						Difference in mean
	N	Mean	SD	Min	Median	Max	N	Mean	SD	Min	Median	Max	
$CFlow_{t+1}$	59	0.0391	0.0599	-0.1114	0.0379	0.1969	1765	0.1201	0.1050	-0.1421	0.1117	0.3642	-0.0810***
N_DNI_{t+1}	59	0.0092	0.0386	-0.0911	0.0086	0.1514	1765	0.1034	0.0956	-0.1373	0.0843	0.3403	-0.0942***
ROA_{t+1}	59	0.6780	3.8423	-11.2200	0.7300	16.4800	1765	8.2224	7.8210	-12.1000	6.8500	34.2300	-7.5445***
CFlow	68	0.0390	0.0663	-0.1029	0.0384	0.2698	2060	0.0934	0.0787	-0.1029	0.0898	0.2698	-0.0543***
N_DAcc	68	0.0189	0.0436	-0.0856	0.0132	0.1321	2060	0.0217	0.0416	-0.0856	0.0208	0.1321	-0.0028
Dis_Acc	68	-0.0514	0.0553	-0.1796	-0.0614	0.1437	2060	-0.0018	0.0710	-0.1796	-0.0066	0.1688	-0.0496***
Abs_Dis_Acc	68	0.0645	0.0367	0.0019	0.0635	0.1624	2060	0.0552	0.0430	0.0008	0.0449	0.1624	0.0093**
Siz	68	10.7880	1.1319	8.5144	10.7065	13.6709	2060	10.5295	1.4202	3.6350	10.3676	15.6374	0.2585*
Lev	68	21.4521	17.6564	0.0000	15.9312	47.6782	2060	13.4178	15.3515	0.0000	7.0770	47.6782	8.0343***
Grw_Opp	68	2.8613	3.1371	0.0000	1.5264	11.1086	2060	3.9680	3.2579	0.0000	3.0021	11.1086	-1.1067***
Fr_CFlow	68	0.0192	0.0312	-0.0574	0.0163	0.1846	2060	0.0598	0.0505	-0.0574	0.0553	0.1846	-0.0406***
Gov	68	44.3347	5.9399	28.5714	44.6429	64.2857	2060	44.7700	6.6256	28.5714	44.6429	67.8571	0.4353

Note: ***, * significant at 1% and 10%. The descriptions of variables are included in para 3.3 and 3.4. The mean difference is calculated using t-test.

Panel C- Descriptive statistics of *Sus_Py* and Non-*Sus_Py* firms

Variable	Previous year earnings target firms (*Sus_Py*)						Non-Previous year earnings target firms (Non-*Sus_Py*)						Difference in mean
	N	Mean	SD	Min	Median	Max	N	Mean	SD	Min	Median	Max	
$CFlow_{t+1}$	256	0.0835	0.0863	-0.1421	0.0838	0.3507	1568	0.1231	0.1066	-0.1421	0.1141	0.3642	-0.0396***
N_DNI_{t+1}	256	0.0686	0.0650	-0.1373	0.0564	0.3403	1568	0.1056	0.0989	-0.1373	0.0879	0.3403	-0.0370***
ROA_{t+1}	256	5.5294	5.5712	-12.1000	4.6600	34.2300	1568	8.3782	8.0801	-12.1000	7.0700	34.2300	-2.8488***
CFlow	303	0.0750	0.0663	-0.1029	0.0728	0.2698	1825	0.0944	0.0805	-0.1029	0.0910	0.2698	-0.0194***
N_DAcc	303	0.0240	0.0385	-0.0830	0.0248	0.1321	1825	0.0213	0.0422	-0.0856	0.0201	0.1321	0.0027
Dis_Acc	303	-0.0188	0.0604	-0.1796	-0.0241	0.1578	1825	-0.0008	0.0724	-0.1796	-0.0056	0.1688	-0.0180***
Abs_Dis_Acc	303	0.0498	0.0376	0.0008	0.0427	0.1624	1825	0.0564	0.0435	0.0008	0.0461	0.1624	-0.0066***
Siz	303	10.8980	1.4909	7.9476	10.6899	15.6374	1825	10.4780	1.3904	3.6350	10.3175	15.3885	0.4200***
Lev	303	16.1061	15.7244	0.0001	11.2742	47.6782	1825	13.2708	15.4184	0.0000	6.8072	47.6782	2.8353***
Grw_Opp	303	2.9505	2.5304	0.0000	2.0325	11.1086	1825	4.0957	3.3377	0.0000	3.0922	11.1086	-1.1452***
Fr_CFlow	303	0.0473	0.0373	-0.0574	0.0420	0.1736	1825	0.0603	0.0521	-0.0574	0.0563	0.1846	-0.0131***
Gov	303	45.5005	7.3118	28.5714	44.6429	67.8571	1825	44.6325	6.4729	28.5714	44.6429	67.8571	0.8680*

Note: ***, * significant at 1% and 10%. The descriptions of variables are included in para 3.3 and 3.4. The mean difference is calculated using t-test.

Table 2 - Pearson's and Spearman's Correlation matrix

Variables	$CFlow_{t+1}$	N_DNI_{t+1}	ROA_{t+1}	$CFlow$	N_DAcc	Dis_Acc	Sus_Ze	Sus_Py	Siz	Lev	Grw_Opp	Fr_CFlow	Gov
$CFlow_{t+1}$	1	**0.652**	**0.654**	**0.569**	**-0.191**	**0.296**	**-0.160**	**-0.126**	**-0.178**	**-0.134**	**0.344**	**0.480**	**0.082**
N_DNI_{t+1}	**0.679**	1	**0.964**	**0.594**	**-0.071**	**0.569**	**-0.222**	**-0.138**	**-0.280**	**-0.347**	**0.482**	**0.576**	0.039
ROA_{t+1}	**0.672**	**0.949**	1	**0.627**	**-0.075**	**0.535**	**-0.214**	**-0.131**	**-0.263**	**-0.345**	**0.469**	**0.553**	**0.047**
$CFlow$	**0.561**	**0.604**	**0.633**	1	**-0.504**	0.056	**-0.129**	**-0.080**	**-0.150**	**-0.187**	**0.351**	**0.464**	**0.060**
N_DAcc	**-0.187**	**-0.088**	**-0.077**	**-0.530**	1	0.042	-0.019	0.019	-0.006	**-0.090**	0.044	**-0.228**	-0.018
Dis_Acc	**0.297**	**0.553**	**0.523**	0.018	**0.068**	1	**-0.130**	**-0.090**	**-0.144**	**-0.323**	**0.285**	**0.326**	**0.046**
Sus_Ze	**-0.137**	**-0.174**	**-0.170**	**-0.117**	-0.022	**-0.118**	1	-0.011	0.044	**0.083**	**-0.092**	**-0.188**	0.014
Sus_Py	**-0.131**	**-0.134**	**-0.126**	**-0.079**	0.012	**-0.089**	-0.011	1	**0.097**	**0.087**	**-0.122**	**-0.095**	0.036
Siz	**-0.150**	**-0.239**	**-0.224**	**-0.115**	-0.022	**-0.145**	0.032	**0.101**	1	**0.226**	**-0.185**	**-0.233**	**0.303**
Lev	**-0.119**	**-0.313**	**-0.307**	**-0.167**	-0.063	**-0.270**	**0.098**	0.068	**0.258**	1	**-0.256**	-0.045	**0.093**
Grw_Opp	**0.331**	**0.433**	**0.423**	**0.336**	0.028	**0.238**	**-0.072**	**-0.133**	**-0.217**	**-0.213**	1	**0.252**	**0.083**
Fr_CFlow	**0.434**	**0.510**	**0.464**	**0.443**	**-0.233**	**0.306**	**-0.149**	**-0.084**	**-0.195**	**-0.082**	**0.167**	1	0.036
Gov	**0.077**	0.038	**0.048**	**0.063**	-0.040	0.023	-0.005	**0.050**	**0.403**	**0.088**	0.025	0.030	1

Note: **Bold** is significant at 1% or 5%. The descriptions of variables are included in para 3.3 and 3.4.

4.2. Econometrics specification

To estimate the regression, it is fundamental to ensure no high correlation (multicollinearity) exists between the variables used in the model. For investigating the multicollinearity issue, we have used the variance inflation factor (VIF). The VIF is reported in Table 4 and 6 for *Sus_Ze* firms and *Sus_Py* firms, respectively. The mean VIF of variables used for *Sus_Ze* firms is 2.30, and that of *Sus_Py* firms is 2.247. The reported VIFs are less than 10, which is taken as the boundary and beyond which the collinearity starts a problem as proposed by Myers (1990) and Greene (2000). Therefore, multicollinearity is not a significant problem in this study.

Table 3 - Results of tests for selecting an appropriate estimation method for Zero earnings target firms (*Sus_Ze*)

Test	$CFlow_{t+1}$		N_DNI_{t+1}		ROA_{t+1}	
	p-value	Estimator	*p*-value	Estimator	*p*-value	Estimator
F-test (all u_i=0)	0.000***	FE	0.000***	FE	0.000***	FE
Breusch Pagan LM	0.999	POLS	0.000***	RE	0.000***	RE
Hausman test	0.000***	FE	0.000***	FE	0.000***	FE

Note: *** significance at 1%.

Table 4 - Heteroskedasticity, autocorrelation and multicollinearity of *Sus_Ze* firms

Test	*p*-value		
	$CFlow_{t+1}$	N_DNI_{t+1}	ROA_{t+1}
Modified Wald test	0.0000***	0.0000***	0.0000***
Wooldridge test	0.0000***	0.0000***	0.0000***
Mean VIF		2.30	

Note: *** significance at 1%.

Before estimating the final regression coefficients, we estimate the coefficients using the fixed effects model (FE), the random-effects model (RE), and the pooled regression model to improve the findings' robustness. It is essential to examine whether pooled OLS is appropriate or individual effect is present in the data. F-test is used to verify whether pooled OLS is appropriate or not. Further, the Breusch-Pagan LM test is used to determine the appropriate estimator among the RE and pooled OLS. Then, the Hausman test is used to find the suitable individual effect model (FE or RE). Finally, we test the heteroskedasticity and serial correlation using the modified Wald test and Wooldridge test.

Table 3 and Table 5 reports the results of econometric specifications of *Sus_Ze* firms and *Sus_Py* firms, respectively. The F-test value strongly rejects (Prob>F = 0.0000) the null hypothesis that "there is no individual-specific effect" at 1% level for both *Sus_Ze* firms and *Sus_Py* firms. The result indicates that the fixed effects model is appropriate than POLS. The Breusch Pagan LM test results allow to rejects (Prob >F = 0.0000) the null hypothesis that "there are no random effects" at 1% level for N_DNI_{t+1} and ROA_{t+1} model for both *Sus_Ze* firms and *Sus_Py* firms. The result suggests that the RE model is appropriate. For $CFlow_{t+1}$ model, POLS is appropriate for the two firm categories; however, POLS is not an appropriate model compared to the FE model as per F-test.

After that, the Hausman test result suggests the rejection (Prob >F = 0.0000) of the null hypothesis "the random effect model is appropriate" at 1% level of significance for all the models. Therefore, the fixed individual effects model of panel regression is adopted in the present study.

Table 5 - Selection appropriate estimation method for previous year earnings target firms (Sus_Py)

Test	$CFlow_{t+1}$		N_DNIt+1		ROA_{t+1}	
	p-value	Estimator	p-value	Estimator	p-value	Estimator
F-test (all u_i=0)	0.000	FE	0.000	FE	0.000	FE
Breusch Pagan LM	0.999	POLS	0.000	RE	0.000	RE
Hausman test	0.000	FE	0.000	FE	0.000	FE

Note: *** significance at 0.01.

Table 6 - Heteroskedasticity, autocorrelation and multicollinearity of Sus_Py firms

Test	p-value		
	$CFlow_{t+1}$	N_DNI_{t+1}	ROA_{t+1}
Modified Wald test	0.0000***	0.0000***	0.0000***
Wooldridge test	0.0000***	0.0000***	0.0000***
Mean VIF		2.247	

Note: *** significance at 1%.

Apart from the multicollinearity test, we have examined the heteroskedasticity and autocorrelation of the fixed effects regression estimations of Sus_Ze firms and Sus_Py firms for the three future performance models. Table 4 and Table 6 report the results of heteroskedasticity and autocorrelation of Sus_Ze firms and Sus_Py firms. The results of the Modified Wald test of $CFlow_{t+1}$, N_DNI_{t+1} and ROA_{t+1} models around Sus_Ze and Sus_Py manifest the heteroskedasticity problem. Similarly, the Wooldridge test results manifest the autocorrelation issue in models.

The heteroskedasticity and first-order autocorrelation is identified in the fixed effect regression estimator. It is noticed in the extant literature that the Feasible Generalised Least Squares (FGLS) estimator has widely used to correct these two issues. However, Reed & Ye (2011) argue that FGLS is suitable only when the panel has a T>/=N. Further, Beck & Katz (1995) have found that the standard errors of Parks (1967) Generalised Least Squares models usually make extreme levels of overconfidence and often underestimate the variability at least by 50%. Also, they have suggested an alternative estimator known as Panel Corrected Standard Errors (PCSE) regression. The approach is highly acceptable in producing a robust result when heteroskedasticity and first-order autocorrelation are present in the econometric models. Therefore, we have used PCSE estimator in the current study.

4.3. Results of regression analysis

The study aims to find whether the AEM activities of listed firms in India are opportunistic or efficient. Researchers give shreds of evidence that the association of Dis_Acc with future performance exposes the behaviour of AEM. The regression results of the main analysis from the econometrics models 4 and 5 are presented in table 7 and 8. Table 7 reports regression

coefficients of *Dis_Acc* interaction with "meet zero earnings" (i.e., $\beta5$, *Dis_Acc*Sus_Ze*) on future performance. The table further documents the association of *Dis_Acc* on year*T+1* performance (β_3).

Table 7 - Regression of AEM on the future performance of zero earnings firms

Variable	Dependent variables		
	Panel A: $CFlow_{t+1}$	Panel B: N_DNI_{t+1}	Panel C: ROA_{t+1}
Constant	0.032	0.035	1.096
	(1.16)	(1.88)	(0.468)
CFlow	0.613***	0.707***	66.064***
	(5.08)	(11.65)	(12.74)
N_DAcc	0.092	0.492***	48.475***
	(0.50)	(7.28)	(9.42)
Dis_Acc	0.354***	0.567***	45.838***
	(6.73)	(9.62)	(9.27)
Sus_Ze	0.001	-0.008	0.182
	(0.13)	(-1.14)	(0.32)
Dis_Acc*Sus_Ze	0.418**	-0.146	5.751
	(2.23)	(-1.53)	(0.66)
Siz	-0.004**	-0.003**	-0.334***
	(-2.06)	(-2.50)	(-3.04)
Lev	0.001***	0.000***	-0.019**
	(3.01)	(-2.95)	(-2.51)
Grw_Opp	0.002***	0.002**	0.090
	(2.79)	(2.47)	(1.45)
Fr_CFlow	0.255***	0.227***	8.828***
	(4.13)	(4.53)	(2.60)
Gov	0.001**	0.000	0.037
	(2.03)	(0.77)	(1.23)
No. of observations	1824	1824	1824
Industry dummy	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes
Wald chi2 (P-Value)	0.000***	0.000***	0.000***
R squared (%)	59.1	74.7	73.5

Note: ***, ** - significance at 0.01, 0.05. The t-values shown in parenthesis are calculated using the SE controlled for autocorrelation and heteroskedasticity using PCSE estimator.

The relation between *Dis_Acc* and future performance is positive and significant at 1 per cent level of acceptance for $CFlow_{t+1}$, N_DNI_{t+1} and ROA_{t+1} models (i.e., β_3, 0.354, 0.567 and 45.838 respectively). Hence, H1 is supported. The result is consistent with Subramanyam (1996); Siregar & Utama (2008); Robin & Wu (2015). This indicates that the firms without the interaction of benchmarks use AEM efficiently to communicate the subsequent years' performance.

The *Dis_Acc*Sus_Ze* associate significantly and positively ($\beta5$, 0.418) with $CFlow_{t+1}$ at 5 per cent (Panel A of Table 7) around zero benchmark firm. The result indicates that the managers use their discretion over earnings to signal future performance to the market. The result is consistent

with previous studies on real earnings management (e.g., Gunny, 2010; Al-Shattarat et al., 2018). Therefore, for the $CFlow_{t+1}$ model of Sus_Ze firms, H2 is validated. The result is in line with the efficient EM among firms that report earnings at or just above zero.

However, an insignificant association is evident between $Dis\_Acc*Sus\_Ze$ and future performance in N_DNI_{t+1} and ROA_{t+1} models (Panel B and C of Table 7). The results show no significant interaction effect of benchmarks on the association of abnormal accruals with subsequent performance. Therefore, the relationship under N_DNI_{t+1} and ROA_{t+1} models of Sus_Ze firms negate H2.

The analysis further shows that current year cash flow ($CFlow$) and non-discretionary accruals (N_DAcc) are positively related to year$T+1$ performance as expected. Among the control variables, firm size (Siz) is significantly and negatively associated with performance in year$T+1$. The relation opposes the findings of prior studies. Similarly, governance disclosure (Gov) is not a force determining year$T+1$ performance. However, the relation may be evident if the individual corporate governance factor is used in the analysis. It is also evident that leverage (Lev) is significant and negative in N_DNI_{t+1} and ROA_{t+1} models at 1 per cent. The coefficient is a strong indication for the relation of Lev and year$T+1$ performance. Nevertheless, performance in year$t+1$ relates positively to the Grw_Opp and Fr_CFlow.

Together, in zero benchmarks firms, the relationship between Year$T+1$ performance and discretionary accruals shows weak evidence of efficient earnings management. Out of two models, only one model ($CFlow_{t+1}$) satisfies the criteria of efficient EM. The result is inconsistent with Gunny (2010) and Al-Shattarat et al. (2018); they have found that activity-based earnings management improves earnings informativeness. Further, in the absence of zero and the previous year earnings benchmarks, the result indicates that Indian company managers undertake earnings management to communicate inside information. This result is consistent with the prior studies (Subramanyam, 1996; Siregar & Utama, 2008; Robin & Wu, 2015).

Table 8 reports regression coefficients of Dis_Acc interaction with "meet previous year earnings" (i.e., $\beta5$, $Dis\_Acc*Sus\_Py$) on future performance. Further, it portrays the association of Dis_Acc on year$T+1$ performance (β_3). The robustness of the relationship between Dis_Acc and T+1 performance (without the interaction of benchmarks) is documented in Table 8. The three measures, $CFlow_{t+1}$, N_DNI_{t+1} and ROA_{t+1}, show positive and significant at 0.369 (t value, 7.03), 0.555 (t value, 9.14) and 44.886 (t value, 8.87), respectively. It corroborates H1. The result indicates the efficient use of AEM in India

Contrary to the result of Sus_Ze, the coefficient β_5 (i.e., $Dis\_Acc*Sus\_Py$) is positive and significant among N_DNI_{t+1} and ROA_{t+1} measures. The evidence supports H3. The result shows that the management in firms' that meet last year profit use their discretion over accruals to signal future performance to the market. The findings are consistent with Gunny (2010) and Al-Shattarat et al. (2018) on real EM. They have found that real EM to meet the benchmarks signals good performance in the future period. When managers have crossed the last year profit, and the profit is not enough to make an apparent benefit, they carry a portion to the subsequent year and report the current year profit nearest to the last profit. The result suggests that the managers engage in earnings smoothing to signal the future good performance around the Sus_Py firms.

Table 8 - Regression of AEM on the future performance of previous year earnings firms

Variable	Dependent variables		
	Panel A: $CFlow_{t+1}$	Panel B: N_DNI_{t+1}	Panel C: ROA_{t+1}
Constant	0.028	0.038*	1.294
	(0.97)	(1.93)	(0.82)
CFlow	0.607***	0.715***	66.399***
	(5.03)	(11.94)	(12.93)
N_DAcc	0.094	0.500***	48.569***
	(0.51)	(7.46)	(9.55)
Dis_Acc	0.369***	0.555***	44.886***
	(7.03)	(9.14)	(8.87)
Sus_Py	-0.016***	-0.002	0.052
	(-3.71)	(-1.06)	(0.24)
Dis_Acc * Sus_Py	-0.001	0.098**	11.329***
	(-0.01)	(2.06)	(3.03)
Siz	-0.004*	-0.004**	-0.355***
	(-1.79)	(-2.58)	(-3.10)
Lev	0.001***	0.000***	-0.018**
	(3.29)	(-2.98)	(-2.40)
Grw_Opp	0.002***	0.002**	0.088
	(2.71)	(2.38)	(1.46)
Fr_CFlow	0.255***	0.225***	8.667**
	(4.13)	(4.42)	(2.54)
Gov	0.001**	0.000	0.035
	(2.14)	(0.76)	(1.19)
No. of observations	1824	1824	1824
Industry dummy	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes
Wald chi2 (P-Value)	0.000***	0.000***	0.000***
R squared (%)	59.3	74.8	73.5

Note: ***, ** and * - significance at 0.01, 0.05 and 0.l. The t-values shown in parenthesis are calculated using the SE controlled for autocorrelation and heteroskedasticity using PCSE estimator.

The control variables show the identical relationship with signs as reported in table 7 of *Sus_Ze* firms. Similarly, current year cash flow (*CFlow*) and non-discretionary accruals (*N_DAcc*) are positively related to year *T+1* performances as expected.

Altogether, when taking both *Sus_Py* firms and firms without the interaction of benchmarks, the findings indicate that managers of Indian firms manage their earnings efficiently to share the prospects about the firm rather than to make personal benefits. However, discretionary accruals' interaction with zero earnings benchmark shows weak evidence of discretionary accruals' signalling effect.

4.4. Robustness checks

The result's robustness is checked using the Modified Jones (1995) model and the Kothari et al. (2005) model. The result of analysis is not reported in the body of the article. The AEM's magnitude is qualitatively matched in firms' with and without interaction of earnings benchmarks. The relation between *Dis_Acc* and year*T+1* performance is significantly positive for *Sus_Ze* and *Sus_Py* firms when the *Dis_Acc* is estimated using Modified Jones and Kothari models. Qualitatively the result supports the findings of the Kasznik model. The result evidenced the signalling effect of AEM in Indian companies.

Further, the result qualitatively supports the relationship of year*T+1* performance on *Dis_Acc*Sus_Ze* and *Dis_Acc*Sus_Py* under Modified Jones and Kothari models. The N_DNI_{t+1} and ROA_{t+1} report significant and positive relation with *Dis_Acc*Sus_Py* at 0.091 (t value, 2.20) and 8.655 (t value, 2.81) respectively in the Modified Jones model. Similarly, in the Kothari model, the two measures, N_DNI_{t+1} and ROA_{t+1}, have a positive and significant association with *Dis_Acc*Sus_Py* at 0.125 (t value, 2.56) and 12.35 (t value, 3.85), respectively. This empirical evidence supports efficient AEM. The relationship between *Dis_Acc*Sus_Ze* and year*T+1* performance is also qualitatively similar in Modified Jones and Kothari model, and the result match the findings of the Kasznik model. Altogether, the results are similar. Overall, our findings that AEM in India is efficient are robust and remain unchanged to the *Dis_Acc* estimated under the Modified Jones (1995) model and the Kothari et al. (2005) model.

5. Conclusion, limitations and implications

The present study focuses on determining the intention of managers' earnings management activities. Specifically, our study investigates the association of discretionary accruals and the future performance of firms that meet two earnings benchmarks, zero and previous year's earnings. Additionally, we examined the association between discretionary accruals and firms' future performance in the absence of specific benchmarks. The regression results of our study after controlling for size, leverage, growth opportunities, free cash flows and governance disclosure show that discretionary accruals of Indian firms that meet the previous year's benchmarks are significantly positively associated with the future performance, which is consistent with Gunny (2010) and Al-Shattarat et al. (2018). The findings suggest that accrual earnings management is undertaken to communicate inside information about future performance.

Further, our study finds that discretionary accruals of firms that meet zero earnings targets are significantly positively associated with subsequent performance in one out of three measurement models. The finding shows weak evidence of discretionary accruals' signalling effect. We also find that in the absence of meeting earnings benchmarks, the discretionary accruals are positively related to the year-ahead performance, which is consistent with Subramanyam (1996); Siregar & Utama (2008); Robin & Wu (2015). The finding suggests that the Indian companies use discretionary accruals to signal the inside information about the future performance. Overall our results favour the signalling perspective of accrual earnings management rather than the detrimental opportunistic earnings management.

Like any empirically arrived conclusion, our study is also not free from limitations. We have identified some limitations in the study. One is that the inherent limitations of earnings management proxy (discretionary accruals) may affect the study's conclusion. Another limitation is that our study focuses only on accrual earnings management; real activities-based earnings management is not considered in the present study. The third limitation is that the study uses the Kasznik model (1999) to measure the discretionary accruals, the inherent inability of the model to decompose the earnings may affect our study. Finally, we have considered only zero earnings and last year's earnings as earnings benchmarks and CFO, non-discretionary net income and the ROA as future performance measures.

Our study has three main implications. First, the study's result (in the absence of earnings benchmarks) intimates the regulators about how managers use the accrual choices to meet earnings targets and to make accounting figures informative to the market. Our results are inconsistent with the common perception of investors that earnings management in India is harmful. Second, the result suggests that investors can rely more on the earnings numbers of firms meeting the previous year's income. Third, the association of abnormal accruals on subsequent period's performance of firms having profits around zero suggests the investors and analysts recognise the costs of earnings management when making decisions. The regulators could consider our findings to introduce more scrutiny on firms that just meet zero earnings.

Acknowledgements

References

Ajay R, Madhumathi R (2015). Institutional ownership and earnings management in India. *Indian Journal of Corporate Governance*. 8(2): 119–136.

Al-Shattarat B, Hussainey K, Al-Shattarat W (2018). The impact of abnormal real earnings management to meet earnings benchmarks on future operating performance. *International Review of Financial Analysis*. 101264.

Alhadab M, Clacher I (2018). The impact of audit quality on real and accrual earnings management around IPOs. *British Accounting Review*. 50(4): 442–461.

Arya A, Glover J C, Sunder S (2003). Are unmanaged earnings always better for shareholders? *Accounting Horizons*. 17(SUPPL.): 111–116.

Balsam S, Bartov E, Marquardt C (2002). Accruals management, investor sophistication, and equity valuation: Evidence from 10-Q filings. *Journal of Accounting Research*. 40(4): 987–1012.

Beck N, Katz J N (1995). What To Do (and Not to Do) with Time-Series Cross-Section Data. *American Political Science Review.* 89(3): 634–647.

Bowen R M, Rajgopal S, Venkatachalam M (2008). Accounting Discretion, Corporate Governance, and Firm Performance. *Contemporary Accounting Research.* 25(2): 351–405.

Brush T H, Bromiley P, Hendrickx M (2000). The free cash flow hypothesis for sales growth and firm performance. *Strategic Management Journal.* 21(4): 455–472.

Burgstahler D, Dichev I (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics.* 24(1): 99–126.

Christie A, Zimmerman J L (1994). Efficient and Opportunistic Choices of Accounting Procedures: Corporate Control Contests. *The Accounting Review.* 69(4): 539–566.

Das R C, Mishra C S, Rajib P (2018). Firm-specific Parameters and Earnings Management: A Study in the Indian Context. *Global Business Review.* 19(5): 1240–1260.

De Jong A, Mertens G, Van Der Poel M, Van Dijk R (2014). How does earnings management influence investor's perceptions of firm value? Survey evidence from financial analysts. *Review of Accounting Studies.* 19(2): 606–627.

Dechow P M (1994). Accounting earnings and cash flows as measures of firm performance The role of accounting accruals. *Journal of Accounting and Economics.* 18: 3–42.

Dechow P M, Sloan R G, Sweeney A P (1995). Detecting Earnings Management. *The Accounting Review.* 70(2): 193–225.

DeFond M L, Jiambalvo J (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics.* 17(1–2): 145–176.

DeFond M L, Park C W (1997). Smoothing income in anticipation of future earnings. *Journal of Accounting and Economics.* 23(2): 115–139.

Degeorge F, Patel J, Zeckhauser R (1999). Earnings Management to Exceed Thresholds. *The Journal of Business.* 72(1): 1–33.

Deloitte, *From the Family to the Firm: A view through the Indian Prism*, January 2013.

Drobetz W, Schillhofer A, Zimmermann H (2004). Corporate governance and expected stock returns: Evidence from Germany. *European Financial Management.* 10(2): 267–293.

Dyreng S D, Hanlon M, Maydew E L (2012). Where do firms manage earnings? *Review of Accounting Studies.* 17(3): 649–687.

Fairfield P M, Whisenant J S, Yohn T L (2003). Accrued earnings and growth : Implications for future profitability and market mispricing. *The Accounting Review.* 78(1): 353–371.

Fama E F, French K R (1992). The Cross-Section of Expected Stock Returns. *The Journal of Finance.* 47(2): 427–465.

Ghazali A W, Shafie N A, Sanusi Z M (2015). Earnings Management: An Analysis of Opportunistic Behaviour, Monitoring Mechanism and Financial Distress. *Procedia Economics and Finance.* 28: 190–201.

Gill A, Biger N, Mand H (2013). Earnings Management, Firm Performance, and the Value of Indian Manufacturing Firms. *International Research Journal of Finance and Economics.* 116: 120–132.

Gompers P, Ishii J, Metrick A (2003). Corporate governance and equity prices. *Quarterly Journal of Economics.* 118(1): 107–155.

Gunny K A (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research.* 27(3): 855–888.

Hanlon M, Maydew E L, Shevlin T (2008). An unintended consequence of book-tax conformity: A loss of earnings informativeness. *Journal of Accounting and Economics.* 46(2–3): 294–311.

Hausman J A (1978). Specification Tests in Econometrics. *Econometrica.* 46(6): 1251–1271.

Healy P (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics.* 7(1–3): 85–107.

Healy P, Palepu K (1993). The Effect of Firms' Financial Disclosure Strategies on Stock Prices. *Accounting Horizons.* 7(1): 1–11.

Healy P, Wahlen J (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons.* 13(4): 365–383.

Hribar P, Collins D W (2002). Errors in estimating accruals : Implications for empirical research. *Journal of Accounting Research.* 40(1): 105–134.

Hsiao C (2005). Why panel data? *The Singapore Economic Review.* 50(2): 143–154.

Jena S K, Mishra C S, Rajib P (2020). Do Indian Companies Manage Earnings Before Share Repurchase? *Global Business Review.* 21(6): 1427–1447.

Jiraporn P, Miller G A, Suk S, Kim Y S (2008). *Is earnings management opportunistic or beneficial? An agency theory perspective*. 17: 622–634.

Jones J J (1991). Earnings Management During Import Relief Investigations. *Journal of Accounting Research*. 29(2): 193-228.

Kasznik R (1999). On the Association between Voluntary Disclosure and Earnings Management. *Journal of Accounting Research*. 37(1): 57-81

Kim J, Kim Y, Zhou J (2017). Languages and earnings management. *Journal of Accounting and Economics*. 63(2–3): 288–306.

Kothari S P, Leone A J, Wasley C E (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*. 39(1): 163–197.

Kothari S P P (2001). Capital markets research in accounting. *Journal of Accounting and Economics*. 31(1-3): 105–231.

Lazzem S, Jilani F (2018). The impact of leverage on accrual-based earnings management: The case of listed French firm. *Research in International Business and Finance*. 44: 350–358.

Leuz C, Nanda D, Wysocki P D (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*. 69(3): 505–527.

Lev B, Li S, Sougiannis T (2010). The usefulness of accounting estimates for predicting cash flows and earnings. *Review of Accounting Studies*. 15(4): 779–807.

Linck J S, Netter J, Shu T (2013). Can managers use discretionary accruals to ease financial constraints? Evidence from discretionary accruals prior to investment. *The Accounting Review*. 88(6): 2117–2143.

Louis H, Robinson D (2005). Do managers credibly use accruals to signal private information? Evidence from the pricing of discretionary accruals around stock splits. *Journal of Accounting and Economics*. 39(2): 361–380.

Moardi M, Salehi M, Poursasan S, Molavi H (2019). Relationship between earnings management, CEO compensation, and stock return on Tehran Stock Exchange. *International Journal of Organization Theory and Behavior*. 23(1): 1–22.

Myers R H (1990). *Classical and modern regression with applications*. Duxbury/Thompson Learning.

Parks R W (1967). Efficient Estimation of a System of Regression Equations when Disturbances are Both Serially and Contemporaneously Correlated. *Journal of the American Statistical Association*. 62(318): 500–509.

Perry S E, Williams T H (1994). Earnings management preceding management buyout offers. *Journal of Accounting and Economics*. 18(2): 157–179.

Pham H Y, Chung R Y, Roca E, Bao B (2019). Discretionary accruals: signalling or earnings management in Australia? *Accounting and Finance*. 59(2): 1383–1413.

Reed W R, Ye H (2011). Which panel data estimator should I use? *Applied Economics*. 43(8): 985–1000.

Robin A, Wu Q (2015). Firm growth and the pricing of discretionary accruals. *Review of Quantitative Finance and Accounting*. 45(3): 561–590.

Rodriguez-Perez G, Van Hemmen S (2010). Debt, diversification and earnings management. *Journal of Accounting and Public Policy*. 29(2): 138–159.

Roychowdhury S (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*. 42(3): 335–370.

Sankar M R, Subramanyam K R (2001). Reporting discretion and private information communication through earnings. *Journal of Accounting Research*. 39(2): 365–386.

Sarkar J, Sarkar S, Sen K (2008). Board of directors and opportunistic earnings management: Evidence from India. *Journal of Accounting, Auditing & Finance*. 23(4): 517–551.

Scott W R (2014). *Financial accounting theory*. Pearson

Shette R, Kuntluru S, Korivi S R (2016). Opportunistic earnings management during initial public offerings: Evidence from India. *Review of Accounting and Finance*. 15(3): 352–371.

Siregar S V, Utama S (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. *International Journal of Accounting*. 43(1): 1–27.

Subramanyam K R (1996). The pricing of discretionary accruals. *Journal of Accounting and Economics*. 22: 249–281.

Swamy V (2012). Corporate Governance in Family Owned Small Firms. *SSRN Electronic Journal*.

Tucker J W, Zarowin P A (2006). Does Income Smoothing Improve Earnings Informativeness ? *The Accounting Review.* 81(1): 251–270.

Vithessonthi C, Tongurai J (2015). The effect of leverage on performance: Domestically-oriented versus internationally-oriented firms. *Research in International Business and Finance.* 34: 265–280.

Watts R L, Zimmerman J L (1986). *Positive Accounting Theory.* Prentice Hall.

Windisch D (2020). Enforcement, Managerial Discretion, and the Informativeness of Accruals. *European Accounting Review.* 1–28.

Wooldridge J M (2002). *Econometric Analysis of Cross Section and Panel Data.* The MIT Press Cambridge.

Yang M L (2010). The Impact of Controlling Families and Family CEOs on Earnings Management. *Family Business Review.* 23(3): 266–279.