Does the Listing Process of an Initial Public Offering affect the Choice of Earnings Management Practices?

Received: May 15, 2022
Review: September 8, 2022
Accepted: Nov. 28, 2022

Aprajita Pandey[a*], J.K.Pattanayak[a] and Prakash Singh[b]

Abstract

Purpose: The main objective of the study is to examine the impact of the equity listing process on the choice of earnings management practices among new issue firms.

Design/Methodology: The study has used a unique sample of new issue firms listed on Indian and Chinese stock markets during the period 2007-2019 and investigated whether the difference in the listing process of these two markets affects the choice of earnings management practices. To empirically test the models, the study has used the two-stage least square regression method (2SLS).

Findings: The findings of the study show that the approval-based listing process in China motivates the new issue firms to substitute accruals with real earnings management. However, the registration-based listing process in India encourages the new issue firms to adopt both accrual and real earnings management practices as complements in their strategic decision-making.

Originality: The present study contributes to the literature by examining how the difference in the listing process of a country affects managers' choice of EM practices in new issue firms which have not been covered in earlier studies

Practical implications: The findings of the study provide insights to analysts, prospective investors, and regulators to correctly evaluate the new issue firms.

Keywords: Earnings management, initial public offering (IPO), accrual earnings management, real earnings management, emerging economies

JEL codes- G24, M40, M41

http://doi.org/10.53908/NMMR.300501

NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

1. Introduction

Earnings management (EM) during an initial public offering (IPO) is a well-established phenomenon. IPO is a procedure through which an unlisted private company raises funds by offering its securities to the public in the primary market to meet its financial needs. It is evidenced in the literature that motivation for EM is high when the firm transits itself from a private to a public entity (IPO). Inflated earnings boost share prices, and an increased price is required when the firm dilutes its equity (Teoh *et al.,* 1998a, b). Literature has observed that managers may adopt two ways to influence the reported earnings. First, accrual earnings management (AM), occurs due to structural pliability in generally accepted accounting principles (GAAP) (Healy and Wahlen, 1999). And second, real earnings management (RM), occurs due to artificially timing the important activities of the firm which are operation, finance, and investment to change the firm's financial performance (Roychowdhury, 2006). Prior studies evidenced that managers weigh the two EM practices to influence the firm's reported earnings. Some studies documented that firms use the two EM methods as a substitute (Chi *et al.,* 2011; Zang, 2012; Campa, 2019), while others evidenced that they use the two methods as complementary tools to each other (Das *et al.,* 2017; Hamza Kortas, 2018; Li, 2019). However, the question of whether the choice of EM practices among new issue firms differs due to the difference in the listing process followed by the primary market of a country is still unanswered. The listing process is often long and complex. A firm that wishes to dilute its equity is required to adhere to this process. However, the complexity of the process may differ among countries depending on the structure of the regulatory system and this difference may result in firms adopting different approaches toward EM.

The present study contributes to this part of the literature by examining how the difference in the listing process of a country affects managers' choice of EM practices in new issue firms. It is evidenced in the literature that a strict regulatory and legal environment will curb AM, however; will stimulate RM practices because it is more difficult to identify and less likely to catch the regulators' attention (Ding *et al.,* 2018; Baatwah *et al.,* 2020). However, firms may adopt AM and RM as complementary techniques to manage earnings when the regulatory environment is a little weaker (Leuz *et al.,* 2003; Hamza and Kortas, 2018). Hence, it can be assumed that new issue firms in countries having a more rigorous and stringent listing process will substitute AM with RM. On the contrary, in a country where the process of listing is relatively facile, AM and RM will be used as a complement.

To empirically test the above-stated objective, the current study has used the dataset of Indian and Chinese new issue firms listed on Bombay stock exchange (BSE) or National stock exchange (NSE) in India and Shanghai (SSE) or Shenzhen stock exchange (SZSE) in China. India and China are the two strong emerging economies

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

in the world and their growth stories are often compared. The two countries have different political and regulatory set-up making them unique from each other. Though, India and China have extensively witnessed privatization, the significant distinction between them is the degree of government's impact on companies. In India, the majority of the firms can be classified into two broad categories, public sector units (PSUs), which have state ownership and government holds the majority shares. The second category of firms is private firms, which are mostly family-owned businesses and are controlled by the promoters along with family members and friends. On the other hand, in China, the government plays a major role in the markets and it has a majority stake in most of the important industries. The average state ownership in companies listed on the Shanghai and Shenzhen stock exchanges was reported as 70% in the year 2002 (Tai and Wong, 2003). There is also a difference in the stock market listing process. China has an approval-based system of equity listing and on the other hand India has a less restrictive registration-based system. Therefore, identifying the unique features of the listing process followed by these two markets and how this listing process influences the manager's choice of EM practices will provide useful insights to the investors and regulators.

Two simultaneous equations have been developed and two-stage least square regression is used to empirically test the objectives. The results show that In China where there is an approval-based system new issue firms use AM and RM as a substitute to each other, however, In India where the regulators follow a registration-based system, newly listed firms adopt AM and RM as a complementary tool. The approval-based system has been identified as a more rigorous process than the registration-based system and hence new issue firms will find it more difficult to adopt AM and will substitute it with RM. The rest of the paper is organized as follows. Section 2 discusses the background of the listing process in India and China. Section 3 reviews the literature and develops the hypotheses. Section 4 discusses the methodology and specifies the empirical model. Section 5 presents the descriptive statistics. Section 6 presents and discusses the empirical results, Section 7 concludes the study and section 8 highlights the implications of the study.

2. Institutional Background

IPO approval system in China

China follows the "approval system" for new public listings since 1999 whose main purpose is to strictly supervise the firms issuing securities for the first time. The firms, applying for an IPO undergo a two-stage rigorous monitoring process. First, they are audited by a reputed accounting firm and later are referred to the China Securities Regulatory Commission (CSRC) by underwriters. CSRC plays an important role in the process of an IPO as it has the authority to reject the application of any firm

that fails to meet the requirements. Underwriters help the new issue firms to prepare a prospectus, arrange for the roadshows, and fixing the prices at which the shares will be issued. They also carefully verify all the documents provided by the issuing firm and ensure the firm's financial statements' genuineness, precision, and rationality before endorsing them. The time to process the firms' evaluation is normally within six months but in some complex cases, the processing time may be extended further. The long and stringent reviewing procedure under the approval system makes it difficult for CSRC to timely process all the applications and since most of the reviews are done based on documents rather than real site visits, it is difficult to verify the authenticity of the documents provided.

IPO Registration system in India

In India IPOs were controlled by the Controller of Capital Issues. However, after the establishment of the Securities and Exchange Board of India (SEBI) on April 12, 1992, the regulatory system of the capital market in India got changed. The firms can now decide the prices at which shares should be offered independent of any regulatory intrusion. SEBI laid down the guidelines for public issuance, disclosure policies, and investor protection which were later converted into an Act in 2009 under ICDR. SEBI scrutinizes the offer documents at various levels to make sure that all required information about the firm is revealed. However, SEBI neither endorses any public offering nor does it claim about the financial health of a firm or prospects of a project for which the equity has to be raised. Therefore, the investors need to make decisions on their own based on the information provided in the offer document. Also, SEBI does not have any role in the fixation of the issue price. The firm in consultation with the underwriter considering market demand fixes the issue price.

Differences in the Listing process for Initial public offerings in India and China

India	**China**
Registration-based system for the issuance of new securities	Approval-based system for the issuance of new securities.
SEBI plays an important role in the IPO process. However, it cannot reject the application of a firm if it meets all the requirements stated under SEBI guidelines	CSRC plays an important role in the process of an initial public offering it has the authority to reject the application at its discretion
SEBI does not play any role in the fixation of the issue price.	Regulators impose an unofficial cap on IPO valuations-a price to earnings ratio of 23.
SEBI does not endorse the quality of issuing firms	Regulators endorse the quality of issuing firms

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

Moderate reviewing procedure under the registration system	The long and stringent reviewing procedure under the approval system
Firms should have a pre-tax operating profit of rupees 150 million and a net profit of at least rupees 10 million in three of the previous five years	Firms are required to show sustained profitability before they qualify for regulatory approval to go public.

3. Literature Review

Accrual and Real Earnings Management Practices in New Issue Firms

Accruals present the true economic performance of the firms by recording revenues and expenses to the period in which they are incurred. Although their prime objective is to reflect the true performance of a firm, they can also be used to manage earnings. Reported income can be managed when managers want to book accruals for major events. One of the major events in a firm's life cycle is an initial public offering (IPO). It is an event where a firm raises funds from the public for the first time and hence, it is important for the firm to present itself as favourable for investment. New issue firms are found to manage their earnings upward during an IPO (Roosenboom *et al.,* 2003; Kimbro, 2005; Premti and Smith, 2020). Numerous studies have given several reasons for this upward movement of earnings during an IPO. Some of the reasons are influencing the price at which shares are offered (DeAngelo, 1988; Krinsky and Rotenberg, 1989), to realize capital gains (Darrough and Rangan, 2005), to send encouraging signals to potential investors (Brau and Fawcett, 2006), to meet earnings forecasts which were reported in the prospectus at the time of IPO to avoid litigation risks and to maintain their reputation in the eyes of investors, analysts and underwriters (Gramlich and Sorensen, 2004). The evidence of the AM around IPOs and their motivation behind them are very well established in the literature.

However, recently, a growing area of research in EM has evidenced that managers are now shifting towards real earnings management to manage their earnings. According to Roychowdhury, (2006), RM constitutes a departure from normal operational practice and involves the acceleration of sales by changing credit terms, deferral of discretionary expenses like research and development (R&D) or advertising expenditure, and reporting of lower cost of sales through overproduction. Previous studies have defined the reasons for this shift of managers towards RM (Roychowdhury, 2006; Cohen *et al.,* 2008; Zang, 2012). They are of the view that firstly, unlike AM, RM is less likely to catch auditors' attention and hence remains undetected (Graham *et al.,* 2005). Secondly, RM can be performed throughout the year, however; AM can be performed only at the end of the quarter or fiscal year. As a result, if firms are only adopting AM, most likely, they might not be able to achieve their goal only through

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

managing accruals and it will be too late to adopt RM as it can be ineffective if not performed gradually throughout the year (Roychowdhury, 2006). Lastly, According to Barton and Simko, (2002), changes in the accounting methods are reflected in the balance sheet. Therefore, firms which managed earnings through AM in the previous years are more likely to resort to RM (Gunny, 2010).

More recently, there is a dearth of common consensus among the researchers on how managers trade-off between the two EM methods in their strategic decision making. Some studies defined that the two EM practices are used as a substitute for each other. They are of the view that an increase in the cost of one earnings management practice motivates the managers to shift to another (Ge and Kim, 2014; Chan *et al.,* 2015). On the contrary, other studies argued that managers can use both AM and RM in a coordinated approach to increase earnings and achieve the greatest effect (Chen *et al.,* 2012; Hamza and Kortas, 2018; Li, 2019). Despite, the occurrence of AM and RM is quite well established in the literature, the managers' choice between the two EM practices due to the difference in the listing process followed by the primary market of a country has still remained unanswered. Hence, it will be worthwhile to examine the choice of EM practices in new issue firms using the sample from two different economies which have different listing processes. The following discussion substantiates the formulation of requisite hypothesis on the basis of available literature

Substitution Hypothesis

The substitutive relation between the two earnings management techniques is a function of the relative costs associated with them. Most studies found that managers will favour AM when the cost associated with RM is increased and vice versa. Barton, (2001) and Pincus and Rajgopal, (2002) studied how managers substitute between derivative hedging and AM. Barton, (2001) suggested that firms using derivatives have higher costs related to RM compared to those firms which are managing AM. Hence, managers may substitute RM with AM. However, the use of RM will increase when the costs related to AM will increase. It is expected that in a strict and transparent regulatory environment firms may adopt RM more than AM. Libby and Seybert, (2010) defined stiffen regulatory environment as the composition of high accounting standards, reporting quality, rigorous auditors scrutiny, and other corporate governance regulations. The motivation behind such strict regulation is to enhance financial reporting quality. Cohen *et al.,* (2008) and Ge and Kim, (2014) evidenced that after the passage of the Sarbanes-Oxley Act (SOX) the firms increased the use of RM. Similarly, Ewert and Wagenhofer, (2005) also examined how strict financial reporting affects the choice of EM and evidence that high accounting standards restrain AM in favour of RM. Their study also confirmed the substitutive relationship among different EM strategies.

From the above discussion it can be inferred that the prevalence of a strict and transparent regulatory environment with high accounting standards, reporting quality, rigorous auditor's scrutiny, and compliance of other corporate governance regulations motivate firms to substitute AM with RM. Hence, it can be assumed that in China, new issue firms will substitute AM with RM as the IPO process is marked with stricter financial benchmarks, long and stringent reviewing procedure and the final acceptance or rejection is influenced by the CSRC's discretion.

H_1: Approval-based listing process encourages the new issue firms in China to Substitute AM with RM.

Complementary Hypothesis

Contrary to the substitute hypothesis, some empirical studies also evidence that there exists a complementary relationship between the two EM alternatives. Leuz *et al.,* (2003) identified that EM through AM would be more prevalent in the firms operating in a weaker regulatory environment. This implies that underdeveloped stock markets, concentrated ownership, low accounting standards, and weak investor protection mechanism encourage earnings management not only through different accounting strategies but also through real decisions taken by managers. Hamza and Kortas, (2018) examined the association between AM and RM in the Tunisian market and found a complementary relationship existing between sales manipulation and AM. Similarly, Li, (2019) examined the impact of equity compensation of chief executive officers (CEOs) on EM and the market pricing under the two types of EM practices and found a positive relationship existing between equity compensation and both types of EM practices. The study indicated that the joint effect of the two strategies is stronger than standalone in terms of stock returns. Similarly, studies in the United States (Mizik and Jacobson, 2007), Taiwan (Chen *et al.,* 2012), and India (Das *et al.,* 2017) suggest that managers use both AM and RM as complementary tools. Considering the above observations, it can be implied that there exists a complementary relationship between the two Therefore, as discussed earlier, in India, the IPO procedure is a registration-based system under which any firm which meets the guidelines stated by the SEBI can issue securities in the primary market. Unlike CSRC SEBI does not endorse any public offering nor does it claim about the financial health of a company or prospects of a project for which the equity has to be raised. Also, SEBI does not have any role in the fixation of the issue price. Hence, it can be assumed that the registration-based system for IPOs followed in India is relatively facile than approval-based, which allows new issue firms to use both AM and RM simultaneously to achieve the greatest benefits.

H_2: Registration-based listing process in India encourages new issues to adopt AM and RM simultaneously.

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

4. Methodology

Data and Sample construction

The primary sample of listed firms on NSE or BSE in India and SSE or SZSE consists of 5118 firms in India and 3776 in China for the period 1988 to 2019. For incorporating in the final sample, firms must have available Thomson Reuter's financial data both in the year of and the year before the IPO. The study restricted the sample to manufacturing firms with available data (Lee and Masulis, 2011; Wongsunwai, 2012). It was ensured that to calculate the AM and RM proxies each observation had the required data. This means every industry to be included in the non-sample firms for estimating the coefficients of the sample firms must have a minimum of eight observations. Industries have been grouped based on two-digit standard industrial classification (SIC) per year, also to meet the minimum eight observation criteria similar kinds of industries were clubbed together. Further, the study has excluded financial firms, the IPOs whose financial statement data for the year before the date of IPO filing was missing were removed from the sample. The sample also excluded spin-offs, closed-end funds, reverse leveraged buyouts (LBOs), limited partnerships, unit investment trusts and real estate investment trusts (REITs), rights and standby issues, combined offers of several classes of securities, such as unit offers of stocks and warrants and offers which are being made simultaneously in both domestic and international markets. Based on these criteria 500 firms in 10 industries during the period 2007-2019 were available. Firstly, the firms listed on Indian and Chinese stock markets were identified and their date of IPO was extracted. Then the financial data for all the IPO firms as well as for the non-IPO firm was collected. A non-IPO firm is a matching firm of the same industry year to which the individual IPO firm belongs.

[See Table I here]

Table (1) represents the number of initial public offerings during the period 1988-2019 in the Indian and Chinese stock markets. As expected in most of the years it can be seen that India has a large number of IPOs compared to China like, from 1988-1996 and then from 2005-2009 and 2014-2018. The plausible explanation for a large number of offerings in the Indian market can be the registration-based listing process which is relatively facile to the approval-based listing process in China. Also, it can be observed that during the period 1996-2005 in India there were less number of IPOs compared to China. The plausible explanation for this could be that during the period 1992-1996 the Indian equity market was hit by large number of companies out of which many of them were 'fly by night' operators. Also, SEBI had just been set up, pricing controls have been removed and lack of proper regulations and infrastructure facilitated this huge fraud on investors. Hence, following this period SEBI introduced major changes in the guidelines during 1996-2005 for the firms issuing securities

leading to a decreased number of IPOs. However, in China with the promulgation of the securities law during 1999-2007 as a key milestone. The legal status of China's capital markets in the economy was formalized and strengthened, and a series of major reforms were implemented to facilitate further development of the capital markets leading to large number of IPOs.

[See Table II here]

Table (2) presents the frequency of new issue firms industry-wise for India and China. In India, IPOs were frequent in miscellaneous manufacturing sector and in China in the machinery industry. The two-digit SIC codes are used to group industries. Also, other than the codes presented in the table, some other related two digits codes have been clubbed in the industries. However, the frequent codes are only reported.

Measuring Accrual and Real Earnings Management

Accrual-based Earnings Management

Following prior studies (Chen *et al.,* 2011; Li, 2019), the study has adopted the cross-sectional modified Jones model (1991) to calculate discretionary accruals which is the proxy for AM. The following cross-sectional regression model has been estimated for each industry and year to measure the total accruals of the non-sample firms

$$\frac{TA_{it}}{Assets_{i,t-1}} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{\Delta Sales_{it} - \Delta Rec_{it}}{Assets_{i,t-1}} + K_3 \frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [1]$$

Where for fiscal year *t* and firm *i*, *TA* represents the total accruals defined as

$TA_{it} = \Delta Currentassets_t - \Delta Cash_t - \Delta Currentliabilities_t + \Delta Shorttermdebt_t - Depreciation_t$

$Assets_{,t-1}$ represent total assets,$\Delta Sales_{it}$ is the change in revenue from the preceding year, $\Delta Rec_{it}$is the change in receivable from the preceding year and PPE_{it} is the gross value of property, plant, and equipment.

The coefficient estimates from Equation (1) were then used to estimate the firm-specific non-discretionary accruals (NA_{it}) for the sample firms.

$$NA_{it} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{\Delta Sales_{it} - \Delta Rec_{it}}{Assets_{i,t-1}} + K_3 \frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [2]$$

Lastly, discretionary accruals were measured as the difference between total accruals and the fitted normal accruals, defined as

$$DA_{it} = \frac{TA_{it}}{Assets_{i,t-1}} - NA_{it} \quad [3]$$

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

4.2.2 Real Earnings Management

Prior studies (Roychowdhury, 2006; Alhadab *et al.,* 2016) have provided the theoretical foundation to develop the proxies for identifying RM. Roychowdhury, (2006) model is the most familiar in the literature when it comes to developing the proxies for RM. He identified three proxies for RM which are abnormal level of cash flow from operations (RM_{CFO}) production costs (RM_{PROD}) and discretionary expenses. However, the present study has adopted only two proxies i.e. RM_{CFO} and $RM_{PROD.}$ The study dropped the discretionary expenses metric because there were fewer than eight observations due to which the regression coefficients could not be estimated. For measuring RM_{CFO} and RM_{PROD} first, the normal level of cash flow from operations (CFO) and normal level of production costs were estimated through the following cross-sectional regression for each industry and year

$$\frac{CFO_{it}}{Assets_{i,t-1}} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{Sales_{it}}{Assets_{i,t-1}} + K_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [4]$$

$$\frac{COGS_{it}}{Assets_{i,t-1}} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{Sales_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [5]$$

$$\frac{\Delta INV_{it}}{Assets_{i,t-1}} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + K_3 \frac{\Delta Sales_{it-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [6]$$

Using Equations [5] and [6], the following model is derived to estimate the normal level of production costs:

$$\frac{PROD_{it}}{Assets_{i,t-1}} = K_1 \frac{1}{Assets_{i,t-1}} + K_2 \frac{Sales_{it}}{Assets_{i,t-1}} + K_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + K_4 \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad [7]$$

Further, RM_{CFO} and RM_{PROD} were measured by deducting the normal CFO and production costs from the actual CFO and production costs. Also, following some previous studies, the study has combined the two individual RM measures to compute a single proxy variable for RM, which is the sum of the standardized value of RM_{CFO} and RM_{PROD} (Chen *et al.,* 2012).

Empirical Model Specification

To examine the formulated hypothesis, simultaneous equations were formulated. Following previous studies (Chen *et al.,* 2012; Hamza and Kortas, 2019), the study adopted two-stage least squares (2SLS) regression to test the simultaneous equations. 2SLS is preferred over ordinary least squares (OLS) to avoid the endogeneity problem. It is an estimator which addresses the correlation problem of endogenous variables with the error term. (Kennedy, 2003). The study also performed the Durbin Wu-Hausman test for endogeneity (Chen *et al.,* 2012). The Hausman test showed a probability value of less than 5%, which suggests that the study was correct in treating

AM and RM as endogenous variables. Further, the Variance inflation factor (VIF) and white's heteroskedasticity tests were used to check for possible multicollinearity and problem of heteroskedasticity.

[See Fig I here]

To test the hypothesis, the study has formulated the following simultaneous equations:

$$AM_{it} = \beta_0 + \beta_1 * RM_{it} + \beta_2 * Size_{it} + \beta_3 * MB_{it} + \beta_4 * lev_{it} + \beta_5 * NI_{it} + \beta_6 * NOA_{it} + \beta_7 * AM_{t-1} + \beta_8 * Big\_8_{it} + \beta_9 * D\_year_t + \beta_{10} * listing_{it} + \beta_{11} * RQ_{it} + \beta_{12} * RL_{it} + \varepsilon_t \quad [8]$$

$$RM_{it} = \alpha_0 + \alpha_1 * AM_{it} + \alpha_2 * Size_{it} + \alpha_3 * MB_{it} + \alpha_4 * lev_{it} + \alpha_5 * NI_{it} + \alpha_6 * NOA_{it} + \alpha_7 * PDC_{it} + \alpha_8 * Indus\_D_{it} + \alpha_9 * D\_year_t + \alpha_{10} * listing_{it} + \alpha_{11} * RQ_{it} + \alpha_{12} * RL_{it} + \varepsilon_t \quad [9]$$

Where, the common explanatory variables for AM and RM include firm size ($Size_t$), measured by the natural logarithm of total assets; firm's equity market-to-book ratio (MB_t), measured by the ratio of market value to the book value of equity; leverage(Lev_t) measured by the natural logarithm of the ratio of debt to total assets; firm's earnings performance(NI_t) measured by the ratio of net income scaled by total assets; firm's accounting flexibility (*NOA*) measured by the ratio of net operating assets at the beginning of the year divided by the lagged sales, a dummy variable Listing ($Listing_{it}$) to indicate the type of listing process followed by the countries and the dummy for years. The two equations also included two different exogenous variables each as proxies for two accounting techniques (AM and RM). The unique exogenous variables for AM are abnormal accruals for the preceding year (AM_{t-1}) and auditor's reputation(Big_8_t) (, measured by auditor's firm size. For RM, unique variables include the firm's production capacity (PDC_t)measured by property, plant, and equipment (PPE) scaled by current sales for the year and dummy variables for all industries ($Indus\_D_t$) included in the sample. The study also included country-level variables in the AM as well as RM model to control for the country-level governance factors. The study has considered two different measures i.e. regulatory quality (RQ) and the rule of law (RL). These two measures were adopted from the composite Worldwide Governance Index (WGI) computed by Kaufmann et al. (2011). This index consists of six indicators. But, out of six, the study has adopted only these two which were more relevant to the study. The variable regulatory quality (RQ), measures the notion related to the capability of the government to draw and realize sound guidelines, and rule of law (RL), gauge the trust of agents' in the regulation of the public, especially the constitution of property rights prosecution mechanisms, the law enforcement organization, the judicial system and also the likelihood of misdemeanour and savagery.

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

5. Descriptive Statistics

[See Table III here]

Table (3) reports the descriptive statistics of dependent and Independent variables used in the empirical analysis for India and China. In India, the sample mean of the decisive variables is 0.65 for AM and 0.72 for RM. Similarly, for China, it is 0.46 for AM and 1.64 for RM. This represents that the average value of AM is larger in India, however, the average value of RM is found to be larger in China. This suggests that new issue firms in India adopt more accruals management however in China firms adopt more real earnings management. Further, the standard deviation value for AM in India is 0.39 and in China, it is 0.26 however, for RM it is 1.20 in India and 0.09 in China. Further, the mean value of the accounting flexibility (NOA) is larger in India which is 1.64 compared to China which is 0.60. This represents that the accounting system in India is more flexible than in China.

6. Empirical Results and Discussion

The 2SLS regression results from Equations 8 and 9 are reported in Table 4. Model I represents Equation (8) and Model II represents Equation (9).

[See Table IV here]

For India, the coefficient value of RM in Equation (1) was 0.64 (t = 2.46) found to be positive and significant at the 1% level. However, for China, it was -0.20 (-2.11) found to be negative and significant at the 5% level. Similarly, in Equation (2), when the study took RM as the dependent variable, the coefficient values of AM were 0.35 (t = 3.42) found to be positive and significant at the 1% level for India and was -0.11(t = -2.74) negative and significant at 5% level in China. The positive and negative coefficient values in India and China support the hypothesis that new issue firms in India will use AM and RM as a complement to each other, however, firms in China will use AM and RM as a substitute while managing the earnings of the firm before an IPO. The results are in line with the assumption that an approval-based system in China discourages new issue firms to adopt AM. Firms in China, applying for an IPO undergo a two-stage rigorous monitoring process and are under the strict supervision of CSRC making it difficult for firms to adopt AM. However, to achieve the desired incentives like higher offer price, meeting investors expectations, new issue firms will shift from AM to RM as it is difficult to detect, and therefore less likely to catch the regulator's attention (Ding *et al.,* 2018). In a related study by Ho *et al.,* (2015) it was observed that Chinese A-share firms substituted AM with RM after the adoption of international financial reporting standards (IFRS). Similarly, some prior studies also evidenced that firms functioning under a strict regulatory environment reduced the use of AM and increased the use of RM (Libby and Seybert, 2009; Zang, 2012;

Enomoto *et al.,* 2017). Contrary to this, the present study evidenced that new issue firms in India have used both AM and RM simultaneously. This may be due to the registration-based listing process which is relatively less stringent than the approval-based system in China. Under the registration-based system, the firm that meets the guidelines stated by the SEBI would be eligible for issuing securities in the primary market. Compared to CSRC, SEBI does not play a significant role in the listing process. Neither it has any role in the price fixation nor does it review any firm personally. Hence, to obtain the greatest incentives from an IPO, new issue firms tend to adopt AM and RM simultaneously. Prior studies evidenced that a less stringent regulatory environment gives more window of opportunity to firms to manage earnings (Libby and Seybert, 2009).

Further, in controlled variables, the variable firm size was found to be (-0.02, -0.04) negative and significant at the 1% level to AM and positive (0.13, 0.18) significant to RM at 5% level in both India and China respectively. It implies that larger firms will decrease the use of AM and will increase the use of RM. The plausible explanation behind this would be, larger firms have a better structure to monitor compared to smaller firms and therefore they coordinate with auditors and other external monitoring systems well and decrease the use of AM (Klein, 2002; Chen *et al.,* 2012). The variable MB was found to be negative and significant to AM but is positive and significant to RM in both India and China indicating that firms with high growth opportunities will substitute AM with RM. Also, in India, the variable leverage (lev) was found to be (-0.05) negative and significant to AM and positive (0.09), and significant to RM. It implies that Indian new issue firms with high leverage will substitute AM with RM. Similarly, Fields *et al.,* (2001) in their study also found that leverage is positively related to the choice of accounting practices. They argued that leverage enhances vigilance by banks as well as bondholders add more strict covenants and hence firms may find it difficult to practice AM and may resort to RM. The variable net income (NI) in India was found to be negative (-0.04) and significant to AM but was positive (0.05) and significant at a 5% level to RM. However, in China, the study evidenced an opposite relationship. The results suggest that new issue firms in India with high operating performance will substitute AM with RM. However, in China, it is just the opposite. Zang (2012) observed that firms with poor performance would prefer to manage earnings through AM as they find RM more costly. Further, in China, the accounting flexibility of the firm (NOA) was found to be negative (-0.11) and significant to AM and positive (0.03), and significant to RM. This suggests that in China strict accounting standards, financial reporting, and auditing will encourage the new issue firms to substitute AM with RM (Ewert and Wagenhofer 2005; Hamza and Kortas; 2018). However, the study does not find it to be a significant variable in India.

Further at country-level governance, RQ was found to impact AM negatively and

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

significantly at the 1% level in China. However, in India, RQ came out to be an insignificant variable. Further, RL was found to be negatively and significantly related to AM at the 1% level in China and India, respectively. These results indicate that the government's ability to develop and enact judicious policies and guidelines is better in China, which helps in restraining firms from indulging in AM practices. However, the results for rule of law showed that in both China and India, as the morale of people in rules increases, and they have more positive perceptions towards the enforcement of property rights and contracts, AM is constrained. However, unlike Mellado and Saona (2019) who found RQ and RL as significant variables in constraining RM activities, the present study could not find any such relationship.

7. Conclusion

The current study examined the influence of listing process of Indian and Chinese issue firms on the managers' choice between AM and RM practices. The study found that new issue firms in India use AM and RM practices as complement to each other. However, in China, a substitute relationship has been observed. One of the possible explanations behind this may be that new issue firms listed on SSE and SZSE face a stricter listing and reviewing process than firms listed in BSE or NSE before an IPO. Hence, Chinese firms are likely to shift from AM to RM as RM is difficult to identify and are outside the purview of regulators. However, Indian new issue firms adopt both AM and RM simultaneously to achieve the desired incentives from an IPO. Further, the study evidenced that factors like auditor reputation, earnings performance, flexibility in accounting standards, and firm size affect the manager's decision while choosing between the two EM practices in both India and China. The findings of the study imply that regulators need to understand that a strict regulatory environment does not reduce EM activities, but only lead to managers opting for alternative EM strategies. Therefore, regulators should not only watch the avenues of AM but should also try to look at the possible avenues of RM.

8. Implications and Future Scope

The findings of the study provide insights to analysts, prospective investors, and regulators to correctly evaluate the new issue firms. Investors and analysts to some extent can anticipate the strategy adopted by the new issue firms to manage their earnings by looking at the robustness of the listing process followed by the stock market. Similarly, the study encourages the regulators to enhance the guidelines for the new issue firms from time to time as the study implies that bringing enhanced regulatory environment will not reduce the EM activities altogether. Further, the study motivates the researchers to explore more about the listing processes followed by different stock markets all over the world and examine its impact on the strategic behaviour of the firms to manage earnings.

Ms Aprajita Pandey currently works as Assistant Professor at School of Economics and Finance, R.V University, Bengaluru, Karnataka, India and can be reached at aprajitap@rvu.edu.in
ORCID- https://orcid.org/0000-0001-8470-2226

J.K.Pattanayak, currently works as Professor, Department of Management Studies, at Indian Institute of Technology (Indian School of Mines), Dhanbad, Jharkhand, India and can be reached at jkpattanayak@iitism.ac.in
ORCID- https://orcid.org/0000-0002-8432-1308

Prakash Singh, currently works as Professor, Accounting and Finance Area, Indian Institute of Management, Lucknow and can be reached at p_singh@iiml.ac.in
ORCID- https://orcid.org/0000-0002-7486-5272

References

Alhadab, M., Clacher, I. and Keasey, K. (2016), "A Comparative analysis of real and accrual earnings management around initial public offerings under different regulatory environments", *Journal of Business Finance and Accounting,* Vol. 43 No. (7-8), pp.849-871. https://doi.org/10.1111/jbfa.12201.

Baatwah, S.R., Al-Qadasi, A.A. and Al-Ebel, A.M. (2020), "Religiosity at the top: does it interact with accounting expertise to limit real earnings management?", Managerial *Auditing Journal*, Vol.35 No.9, pp.1343-1377. doi/10.1108/MAJ-12-2019-2521.

Barton, J. (2001), "Does the use of financial derivatives affect earnings management decisions?", *The Accounting Review,* Vol.76 No.1, pp.1-26. https://doi.org/10.2308/accr.2001.76.1.1

Barton, J. and Simko, P.J. (2002), "The balance sheet as an earnings management constraint", *The Accounting Review,* Vol. 77 No. (s-1), pp.1-27. doi.org/10.2308/accr.2002.77.s-1.1

Brau, J.C. and Fawcett, S.E. (2006), "Evidence on what CFOs think about the IPO process: practice, theory, and managerial implications", *Journal of Applied Corporate Finance*, Vol.18 No.3, pp.107-117.doi.org/10.1111/j.1745-6622.2006.00103.

Campa, D. (2019), "Earnings management strategies during financial difficulties: A comparison between listed and unlisted French companies", *Research in International Business and Finance*, Vol. 50, pp. 457-471.

Chan, L.H., Chen, K.C., Chen, T.Y. and Yu, Y. (2015), "Substitution between real and accruals-based earnings management after voluntary adoption of compensation

clawback provisions", *The Accounting Review*, Vol. 90 No.1, pp.147-174. doi.org/10.2308/accr-50862

Chen, C. L., Huang, S. H. and Fan, H. S. (2012), "Complementary association between real activities and accruals-based manipulation in earnings reporting", *Journal of Economic Policy Reform,* Vol.15 No. 2, pp. 93-108. doi.org/10.1080/17487870.2012.667965

Chi, W., Lisic, L.L. and Pevzner, M. (2011), "Is enhanced audit quality associated with greater real earnings management?", *Accounting Horizons*, Vol.25 No.2, pp. 315-335. doi.org/10.2308/acch-10025

Cohen, D.A., Dey, A. and Lys, T.Z. (2008), "Real and accrual based earnings management in the pre and post Sarbanes Oxley periods", *The Accounting Review*, Vol.83 No.3, pp. 757-787. doi.org/10.2308/accr.2008.83.3.757

Darrough, M. and Rangan, S. (2005), "Do insiders manipulate earnings when they sell their shares in an initial public offering?", *Journal of Accounting Research*, Vol. 43 No.1, pp. 1-33. https://doi.org/10.1111/j.1475-679x.2004.00161

Das, R. C., Mishra, C. S. and Rajib, P. (2017), "Real Versus Accrual-based earnings management: Do Indian Firms Prefer One over the Other?", *Paradigm*, Vol. 21 No.2, pp. 156-174. doi.org/10.1177/0971890717736214

DeAngelo, L.E. (1988), "Managerial competition, information costs, and corporate governance: The use of accounting performance measures in proxy contests", *Journal of Accounting and Economics,* Vol. 10 No.1, pp. 3-36. doi.org/10.1016/0165-4101 (88)90021-3

Ding, R., Li, J. and Wu, Z. (2018), "Government Affiliation, Real Earnings Management, and Firm Performance: The Case of Privately Held Firms", Journal *of Business Research,* Vol. 83, pp.138-150. doi.org/10.1016/j.jbusres.2017.10.011

Elleuch Hamza, S. and Kortas, N. (2019), "The interaction between accounting and real earnings management using simultaneous equation model with panel data", *Review of Quantitative Finance and Accounting,* Vol. 53 No.4,1195-1227. 10.1007/s11156-018-0779-5

Enomoto, M., Kimura, F. and Yamaguchi, T. (2018), "A cross□country study on the relationship between financial development and earnings management", *Journal of International Financial Management & Accounting*, Vol. 29 No.2, pp.166-194.

Ewert, R. and Wagenhofer, A. (2005), "Economic effects of tightening accounting standards to restrict earnings management", *The Accounting Review*, Vol. 80 No.4, pp.101-1124. doi.org/10.2308/accr.2005.80.4.1101

Fields, T. D., Lys, T. Z. and Vincent, L. (2001), "Empirical research on accounting choice.", *Journal of Accounting and Economics*, Vol. 31 No.1-3, pp. 255-307. doi.org/10.1016/S0165-4101(01)00028-3

Ge, W. and Kim, J.B. (2014), "Boards, takeover protection, and real earnings management", *Review of Quantitative Finance and Accounting*, Vol.43 No.4, pp. 651-682. 10.1007/s11156-013-0388-2

Graham, J.R., Harvey, C.R. and Rajgopal, S. (2005), "The economic implications of corporate financial reporting", *Journal of Accounting and Economics*, Vol.40 No. 1-3, pp. 3-73. doi.org/10.1016/j.jacceco.2005.01.002

Gramlich, J.D. and Sørensen, O. (2004), "Voluntary management earnings forecasts and discretionary accruals: evidence from Danish IPOs", *European Accounting Review*. Vol. 13 No. 2, pp. 235-259. doi.org/10.1080/0963818042000203338

Gunny, K.A. (2010), "The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks", *Contemporary Accounting Research*, Vol. 27 No.3, pp. 855-888. doi.org/10.1111/j.1911-3846.2010.01029.

Healy, P.M. and Wahlen, J.M. (1999), "A review of the earnings management literature and its implications for standard setting", *Accounting Horizons,* Vol. 13 No. 4, pp. 365-383. doi.org/10.2308/acch.1999.13.4.365

Ho, L.C.J., Liao, Q. and Taylor, M. (2015), "Real and accrual□based earnings management in the pre□and post□IFRS periods: Evidence from China", *Journal of International Financial Management & Accounting,* No. 26 No.3, pp. 294-335. doi.org/10.1111/jifm.12030

Jones, J. J. (1991), "Earnings Management During Import Relief Investigations", *Journal of Accounting Research,* Vol. 29 No.2, pp. 193-228. doi.org/10.2307/2491047

Kennedy, P. (2008), "A guide to econometrics", John Wiley & Sons.

Kimbro, M. B. (2005), "Managing underpricing? The case of pre□IPO discretionary accruals in China", *Journal of International Financial Management & Accounting,* Vol. 16 No. 3, pp. 229-262. doi/abs/10.1111/j.1467-646X.2005.00118.x

Klein, A. (1998), "Economic determinants of audit committee composition and activity", New *York University,* Centre for Law and Business. Working Paper, pp. 98-011.

Krinsky, I. and Rotenberg, W. (1989), "The valuation of initial public offerings", *Contemporary Accounting Research,* Vol. 5 No. 2, pp. 501-515. 10.1111/j.1911-3846.1989.tb00719.x

SVKM'S NMIMS Deemed to be UNIVERSITY

NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

Leuz, C., Nanda, D. and Wysocki, P.D. (2003), "Earnings management and investor protection: an international comparison", *Journal of Financial Economics*, Vol. 69 No.3, pp.505-527. doi.org/10.1016/S0304-405X(03)00121-1

Li, L. (2019), "Is there a trade-off between accrual-based and real earnings management? Evidence from equity compensation and market pricing", *Finance Research Letters*, Vol.28, pp. 191-197. doi.org/10.1016/j.frl.2018.04.021

Libby, R. and Seybert, N. (2010), "Behavioural Studies of the Effects of Regulation on Earnings Management and Accounting Choice", *In Accounting, Organizations, and Institutions: Essays in Honour of Anthony Hopwood*,1,290.

Mizik, N. and Jacobson, R. (2007), "Myopic marketing management: Evidence of the phenomenon and its long-term performance consequences in the SEO context", *Marketing Science*, Vol. 26 No.3, pp.361-379. doi.org/10.1287/mksc.1060.0261

Pincus, M. and Rajgopal, S. (2002), "The interaction between accrual management and hedging: Evidence from oil and gas firms", *The Accounting Review*, Vol. 77 No.1, pp. 127-160. doi.org/10.2308/accr.2002.77.1.127

Premti, A. and Smith, G. (2020), "Earnings management in the pre-IPO process: Biases and predictors", *Research in International Business and Finance*, Vol. 52, pp. 101120.

Roosenboom, P., Van der Goot, T. and Mertens, G. (2003), "Earnings management and initial public offerings: Evidence from the Netherlands", *The International Journal of Accounting,* Vol. 38 No.3, pp. 243-266. doi.org/10.1016/S0020-7063(03)00048-7

Roychowdhury, S. (2006), "Earnings management through real activities manipulation", *Journal of Accounting and Economics*, Vol. 42 No.3, pp.335-370. doi.org/10.1016/j.jacceco.2006.01.002

Teoh, S. H., Welch, I. and Wong, T. J. (1998), "Earnings management and the long-run market performance of initial public offerings", *Journal of Finance,* Vol. 56 No.6, pp.1935-1974. doi/abs/10.1111/0022-1082.00079

Teoh, S.H., Wong, T.J. and Rao, G.R. (1998), "Are accruals during initial public offerings opportunistic?", *Review of Accounting Studies*, No.3 No.1, pp.175-208. 10.1023/A:1009688619882

Zang, A. Y. (2012), "Evidence on the trade-off between real activities manipulation and accrual-based earnings management", *Accounting Review*, Vol. 87 No. 2, pp. 675-703. doi.org/10.2308/accr-10196

Year	Number of Initial Public Offerings	
	India	China
1988	3	1
1989	2	0
1990	166	7
1991	47	4
1992	93	36
1993	290	105
1994	561	99
1995	817	23
1996	244	179
1997	23	198
1998	18	101
1999	21	91
2000	85	134
2001	32	76
2002	36	70
2003	38	67
2004	47	99
2005	249	18
2006	127	65
2007	154	120
2008	141	74
2009	54	96
2010	134	342
2011	148	277
2012	97	149
2013	88	8
2014	147	130
2015	315	233
2016	284	230
2017	253	438
2018	246	102
2019	119	204
Total	5118	3776

Table I – Number of Initial Public offerings in India and China from 1988-2019

Note: Table (1) represents the number of initial public offerings during the period 1988-2019 in the Indian and Chinese stock markets.

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

Table II - Industry distribution of new issue sample firms (India and China) during 2007-2019

		India		China	
Industry	**2-digit SIC**	**Frequency**	**Industry Proportion (%)**	**Frequency**	**Industry Proportion (%)**
Food and Agro	20, 28, 32,34,42,50,51	47	9.40	35	7.00
Textile	22,23,25,26,31,35,36	21	4.20	23	4.60
Chemical	29,30,32,33,34,36,37,38	38	7.60	77	15.40
Consumer Goods	30,31,32,33,34,35,36,38	64	12.80	40	8.00
Construction Materials	24,29,32,34,49,50	43	8.60	24	4.80
Metal and Metal Products	33,34,35,36,39,49,50,62	29	5.80	32	6.40
Transport Equipment	33,35,36,37,42,50,62	41	8.20	28	5.60
Machinery	27,29,30,32,33,34,35,36,37,38, 39,49,50	56	11.20	134	26.80
Miscellaneous Manufacturing	33,34,35,36,3947,48,49,50,51 ,59,60	125	25.00	80	16.00
Tools and Equipment	30,34,35,36,37,38,39,42,48,49	36	7.20	27	5.40
Total		500	100	500	100

Note: Table reports the industry wise distribution of the IPO sample firms in India and China. The two digit SIC codes were used to group industries. Also, other than the codes presented, some other two digits codes were also clubbed in the industries however, the frequent codes are only presented.

Table III - Descriptive Statistics for sample firms conducting IPOs during 2007-2019 (India and China)

	India				China			
Variables	**Mean**	**Std. Dev.**	**Min**	**Max**	**Mean**	**Std.Dev**	**Min**	**Max**
	0.65	0.39	-0.91	2.86	0.46	0.26	-1.82	4.22
	0.72	1.20	0.10	1.74	1.64	0.09	0.93	1.92
	5.45	2.62	2.02	14.03	7.27	0.63	5.62	12.62
	0.00	0.00	-0.00	0.00	0.00	0.03	0.00	0.62
	0.75	0.82	0.05	0.20	-2.21	1.43	-10.26	-0.13
	0.08	2.21	-0.08	1.42	-9.24	0.22	-14.16	-6.86

	1.64	0.09	0.05	1.32	0.60	0.35	-0.20	1.11
	0.51	0.28	-0.72	2.82	-0.02	0.66	-1.10	2.94
	1.42	0.05	0.00	5.68	0.63	0.72	0.00	6.63
	0.66	1.24	-1.82	16.42	0.04	1.27	-12.26	10.46
	0.30	1.20	-2.42	1.98	-0.21	0.22	-5.33	2.42
	40.71	1.92	34.61	42.31	46.63	2.30	43.75	50.97
	54.55	1.72	52.58	57.69	42.27	2.72	35.40	44.71

Note: Table 3 presents the descriptive statistics of dependent and independent variables

Variables	India		China	
	AM (Model I)	**RM (Model II)**	**AM (Model I)**	**RM (Model II)**
	Coefficients (t-value)	Coefficients (t-value)	Coefficients (t-value)	Coefficients (t-value)
Constant	0.07*** (3.76)	-0.03*** (-3.01)	1.34*** (9.15)	-0.93*** (-7.34)
	-	0.35*** (3.42)	-	-0.11** (-2.74)
	0.64*** (2.46)	-	-0.20** (-2.11)	-
	-0.02*** (-2.42)	0.13** (1.19)	-0.04*** (-4.06)	0.18*** (6.54)
	-3.05* (-1.70)	0.73** (5.49)	-0.41*** (-6.42)	0.06** (1.28)
	-0.05*** (-3.59)	0.09*** (0.78)	-0.02 (-1.12)	0.12 (5.42)
	-0.04** (-1.98)	0.05** (0.40)	0.04*** (5.53)	-0.02*** (-4.92)
	-0.02 (-0.20)	0.01 (0.12)	-0.11*** (-4.82)	0.03*** (2.04)
	-	0.08** (0.69)	-	0.08* (3.27)
	0.09 (0.51)	-	-0.10* (-1.69)	-

SVKM'S NMIMS Deemed to be UNIVERSITY
NMIMS Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022

	-0.06* (-1.76)	-	0.07 (0.39)	-
	0.05 (0.40)	-0.08 (-0.54)	-0.74*** (-3.70)	0.01 (1.40)
	-0.39*** (-2.40)	0.12 (0.53)	-3.83*** (-4.03)	0.05 (1.10)

Table IV – 2SLS Regression Results for simultaneous equations (India and China)

Note: All variables are defined in the methodology part. The sample period is between 2007-2019. Model I and II are the simultaneous regressions, where in Model I dependent variable is AM (discretionary accruals) and in Model II dependent variable is RM (real activity management). The study used industry and year dummies to control for the industry and year effect. Value of t statistics is in parenthesis. ***, **, and * denote statistical significance at 1 Percent, 5 Percent, and 10 Percent levels respectively.

Fig. I- 2SLS model to explain the relationship between accruals and real earnings management

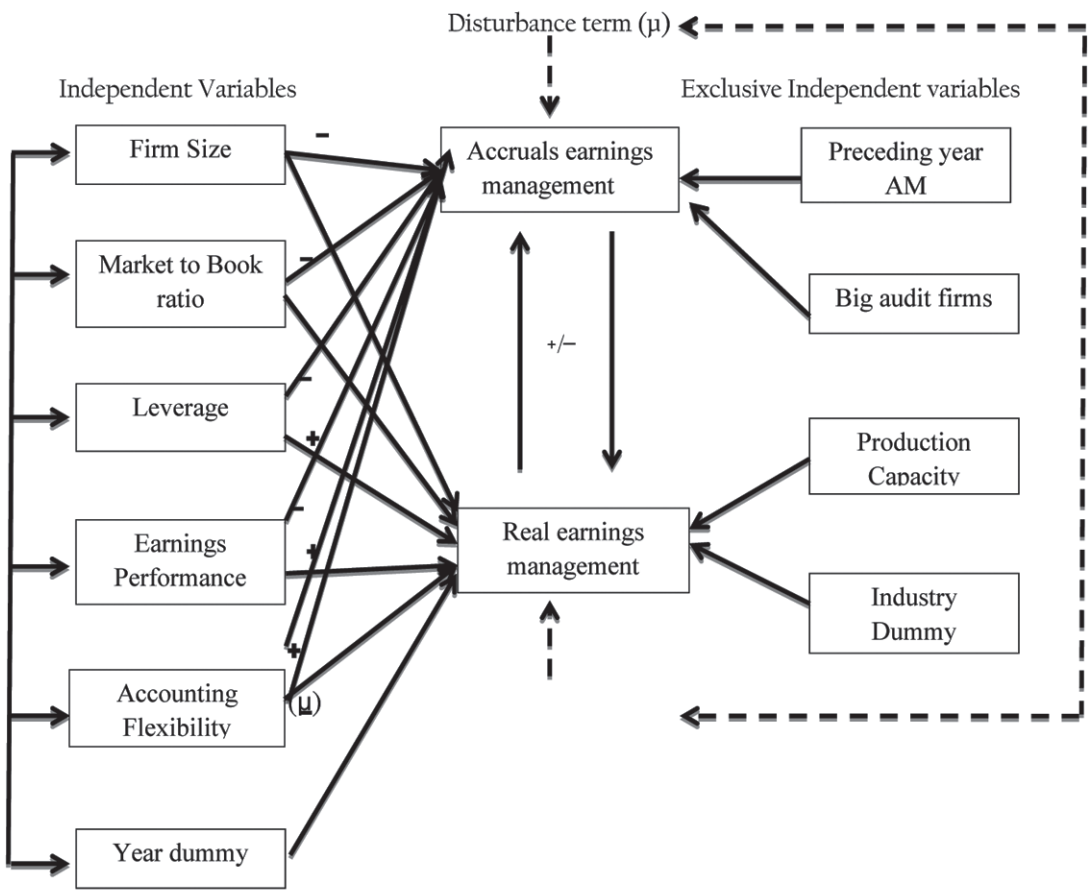

Fig. I The diagram shows the expected relationship between the dependent and independent variables. Dependent variables: Accrual earnings management measured through modified Jones model (1990) and Real earnings management is a combined comprehensive measure of the sum of standardized value of abnormal cash flow from operations and abnormal production costs. Independent variables: firm size (measured by natural logarithm of total assets, firm's equity market-to-book ratio() measured by the ratio of market value to book value of equity, leverage (measured by the natural logarithm of the ratio of debt to total assets, firm's earnings performance (measured by the ratio of net income scaled by total assets, firm's accounting flexibility (measured by the ratio of net operating assets at the beginning of the year divided by the lagged sales and the dummy for years. The unique exogenous variables for AM are abnormal accruals for the preceding year (and auditor reputation (measured by auditor firm size and for RM unique variables include firm's production capacity (measured by property, plant and equipment (PPE) scaled by the current sales for year and dummy variables for all industries (included in the sample.

SVKM'S NMIMS
Deemed to be UNIVERSITY
NMIMS
Management Review
ISSN: 0971-1023
Volume XXX
Issue-5 | October 2022