

Rights issues and earnings management: A new evidence on tunneling

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Abstract: Seasoned equity offerings (SEOs) can be of broadly two types – rights offerings and follow-on or further public offerings (FPOs). In an FPO issue, the new shares are almost always issued to the new investors, while in a rights issue, the new shares are issued primarily to the existing shareholders of a firm. Further, unlike an FPO, a rights offering can potentially transfer wealth from non-participating (minority) shareholders to participating shareholders (insiders) of the rights-issuing firm, and the extent of wealth transfer increases with the degree to which earnings are managed downward. Exploiting these notable differences between the two types of SEOs, we hypothesize as well as document income-decreasing accrual-based earnings management as well as real-activities based earnings management immediately prior to the issue of rights offerings. Further, the incidence of accrual-based earnings management is limited to the period of weak corporate governance enforcement. Our results, which are in stark contrast to the conventional wisdom of income-inflating earnings management around SEOs, also provide evidence of another form of tunneling of wealth from minority shareholders to insiders.

Keywords: Earnings management; Public offerings; Rights issues; Seasoned equity offerings; Tunneling

JEL classification: G32, M41

1 Introduction

Seasoned equity offerings (SEOs), a means of raising finance for listed firms, can be broadly classified into two types – rights offerings and follow-on or further public offerings (henceforth, FPOs). Both rights offerings, as well as FPOs, involve the issue of new shares to investors. However, there is a striking difference between the issue of rights offerings and that of FPOs. In an FPO issue, the new shares are almost always issued to the new investors, while in a rights issue, the new shares are issued primarily to the existing shareholders of a firm.¹ We argue that this notable difference between the issue of rights and that of FPOs is likely to have very different implications on how firms manage their earnings around these events.

Prior literature concludes that firms manage their earnings upward during the issue of SEOs and thereby sell their equity at as high prices as possible, with an objective of eventually decreasing the degree of underpricing and raising capital at favorable terms (D. A. Cohen & Zarowin, 2010; DuCharme, Malatesta, & Sefcik, 2004; Y. Kim & Park, 2005; Kothari, Mizik, & Roychowdhury, 2016; Rangan, 1998; Shivakumar, 2000; Teoh, Welch, & Wong, 1998). In a rights issue, however, the same incentives do not hold because insiders of a firm themselves participate in the issue, and there is no reason for insiders to issue overvalued equity to themselves. On the contrary, insiders can potentially use rights issues to increase their shareholding cheaply by expropriating minority shareholders' wealth if minority shareholders do not participate to the full extent of their entitlement. Further, the extent of wealth transfer from non-participating minority shareholders to participating insiders increases with the degree to which earnings are managed downward.

¹ While it is possible for existing shareholders of a rights-issuing firm to renounce their rights in favor of new shareholders in India, we observe that a significant proportion of existing shareholders do not renounce their rights in favor of others despite their non-participation. Further, it is possible for existing shareholders to oversubscribe to the rights offering (i.e., subscribe to unsubscribed portion of the rights offering) over and above their entitlement. As a result, the participation in a rights offering remains primarily limited to existing shareholders.

Most of the prior studies examining earnings management around SEOs either exclude the rights issues from their sample of SEOs (see, for instance, Cohen & Zarowin, 2010) or rights issues form a very small proportion of their sample. As a result, the conclusions arrived at in the prior literature by examining SEOs (which are predominantly the samples of FPOs) may not apply to rights issues. In this paper, we examine *whether* firms manage their earnings downward (as opposed to upward earnings management around FPOs) prior to rights issues so as to benefit their insiders at the expense of minority shareholders.

Rights issues have not been very popular in markets with widely dispersed shareholding like the US (Cronqvist & Nilsson, 2005; Hansen, 1988). However, rights issues are quite popular outside the US, especially in markets with concentrated shareholdings in the hands of insiders (Cronqvist & Nilsson, 2005; Eckbo & Masulis, 1995). In fact, rights issues outnumber the FPO issues in markets such as United Kingdom, France, Netherlands, Italy, India, Australia, Sweden, Singapore, Spain, Finland, New Zealand, Norway, Germany, Greece, and Switzerland among several other nations (Holderness & Pontiff, 2016).

We choose India as the setting of our study for three prominent reasons. First, unlike some of the developed markets such as the US, rights issues have been a popular means of raising finance in India, and rights issues often outnumber the FPO issues year after year (Holderness & Pontiff, 2016). We can thus get a sufficient number of rights issues for empirically examining our research question. Second, the extent of income-decreasing earnings management is likely to be stronger in markets like India that have concentrated insider holdings because insiders in these markets have both strong incentives as well as the ability to influence the accounting outcomes. Finally, unlike the regulations in China, Indian regulations do not require firms that intend to issue rights to meet minimum accounting profitability (Jetley & Mondal, 2015). A regulation of this sort, which

requires firms intending to issue rights to have a minimum accounting profitability, may potentially obscure the results because firms may then manage their earnings upward in order to meet the rights issue threshold as has been the case in China (Chen & Yuan, 2004; Yu, Du, & Sun, 2006).

The results of our study reveal that rights-issuing firms manage their earnings downward using both accruals as well as real activities in the financial year immediately preceding the year of the rights issue. While we find evidence of income-decreasing real earnings management by rights-issuing firms throughout our sample period, we find income-decreasing accrual manipulation limited to the period of weak corporate governance enforcement.

Our study contributes to several strands of literature. First, we contribute to the literature on earnings management around SEOs by documenting that not all SEOs are alike and that firms may engage in both income-increasing as well as income-decreasing earnings management depending on whether it is an FPO or a rights issue, respectively. We are first, to the best of our knowledge, to demonstrate that firms manage their earnings downward prior to the issue of rights. Our results also lend support to the practice of income-decreasing real activities-based earnings management, which has been largely ignored in the prior literature.²

In addition, we unravel a new means of expropriation of minority shareholders by controlling shareholders of a firm. The minority shareholders, who do not participate in a rights issue because of reasons such as liquidity costs, transaction costs, taxes or otherwise (Hansen, Pinkerton, & Ma, 1986; Holderness & Pontiff, 2016), tend to lose not just because rights carry

² At the time of writing this paper, we have come across only two studies – Mao and Renneboog (2015) and Francis, Hasan, and Li (2016) – that have found the evidence of downward earnings management using real activities around some corporate events.

value but also because of the downward managed earnings of the rights-issuing firm. The insiders or controlling shareholders of the firm, on the other hand, tend to gain at the expense of non-participating minority shareholders. Thus, the insiders of a firm may use the rights issue as a tool to expropriate minority shareholders.

The rest of the paper is organized as follows. In the following section, we discuss the related literature and develop our hypotheses. Section 3 details the methodology for examining earnings management. In Section 4, we describe the sample selection and descriptive statistics. Section 5 provides the empirical analysis and discussion. We conclude in Section 6.

2 Related literature and hypotheses development

Different incentives drive the insiders of a firm to manage its earnings differently for different events. Since earnings are value-relevant and affect stock prices (Ball & Brown, 1968; Beaver, 1968; Beaver, McNichols, & Wang, 2018), insiders can manage their firm's earnings upward (downward) to make its stock overvalued (undervalued) depending on the incentives involved.

Early literature on earnings management around SEOs documents that firms engage in income-increasing accruals management around these events for raising capital at favorable terms, reducing the degree of underpricing, and possibly also transferring wealth from future shareholders to existing shareholders (DuCharme et al., 2004; Y. Kim & Park, 2005; Rangan, 1998; Shivakumar, 2000; Teoh et al., 1998). These studies, however, do not arrive at a consensus as to whether the stock market is completely able to undo the earnings management. Literature in the recent past documents that in addition to income-increasing accruals, firms also engage in income-increasing real activities management around SEOs (D. A. Cohen & Zarowin, 2010). In fact, real

activities management, a more opaque channel to manage earnings, is the dominant source of earnings management around SEOs in spite of being costlier than accrual management in the long run (Kothari et al., 2016).

The scope of the prior literature, however, has remained confined to only one type of SEO – FPO.³ In an FPO issue, the new shares are almost always issued to the new investors, while in a rights issue, the new shares are issued only to the existing shareholders of a firm. This notable difference in the two types of SEOs may have very different implications on how firms manage their earnings around these events. While earnings management around FPOs transfers wealth from future shareholders to existing shareholders, we argue that earnings management around rights issues can be used to redistribute wealth among the existing shareholders of the rights-issuing firms.

The issue of a rights offering by a firm allows its existing shareholders to maintain their proportional shareholding intact in the firm. Ideally, it makes sense for all existing shareholders of a firm to subscribe to the firm's rights issue because rights carry value and allow existing shareholders to purchase the stock of the firm at some discount to its market value (Brealey, Myers, & Allen, 2014, p. 436). However, in practice, not all shareholders of a firm subscribe to its rights issue for reasons such as liquidity and transaction costs (Hansen et al., 1986). In spite of a substantial discount to the current market price of a stock in the case of rights offerings, only about 64% of the shareholders participate in the issue (Holderness & Pontiff, 2016).

³ There are two studies based on the Chinese context – Chen and Yuan (2004) and Yu, Du, and Sun (2006) – that study earnings management around regulatory thresholds of accounting profits for issuing rights. These studies, however, do not examine the earnings management around the issue of rights. Both these studies document that Chinese firms planning to issue rights manage their earnings upward in order to become eligible to do so.

A rights issue can potentially redistribute wealth among the shareholders of a firm depending on their decision to participate or not in the rights offering (Holderness & Pontiff, 2016; Smith, 1977). The participating shareholders of a firm, particularly its insiders, make gains at the expense of non-participating shareholders. Further, if insiders of a firm subscribe to the unsubscribed portion of the rights offering as well, more wealth gets transferred from non-participating shareholders to insiders. The transfer of wealth may be even more if the firms manage their earnings downward prior to the rights issue, thereby making the stock undervalued and increasing the value of each right. Thus, a rights issue can potentially facilitate large-scale wealth distribution among the existing shareholders of a rights-issuing firm. We illustrate how the wealth may be transferred among existing shareholders of a rights-issuing firm under different scenarios in the Appendix.

In addition, if the insiders of a firm want to increase their shareholding in the firm beyond a specific limit, the acquisition of a substantial number of shares, under the takeover code, often triggers the need to make an open offer to its minority shareholders at a competitive price.⁴ Insiders, however, can take advantage of the rights issues route to increase their shareholdings in their firms (Kothare, 1997), and also circumvent the provisions of the takeover code (Jetley & Mondal, 2015).⁵ Thus, the insiders of a rights issuing firm can potentially use the rights offering as a tool for increasing their shareholding at a much lower cost than that of other available means.

Based on the above discussion, we state our hypothesis below:

⁴ The acquisition of specific percentage of shares that triggers an open offer obligation varies from one country to another. For instance, in India, the limit has historically varied from 5% to 10%. Other countries including France, Hong Kong, Singapore, and Australia have similar thresholds (Source: <https://www.pwc.in/assets/pdfs/services/m-a-takeover-book-final-lowres.pdf>).

⁵ For our sample of rights offerings with available ownership data, we observe that insider ownership increases by 4.5 percentage points, on average, immediately after the rights issues, which is both statistically as well as economically significant.

Hypothesis: *Firms engage in income-decreasing accrual as well as real-activities based earnings management prior to rights issues.*

3 Methodology

Prior literature uses a two-step approach commonly used to test the presence of earnings management (Du & Zhang, 2013). The first step involves identifying the incentives which may lead the managers of a firm to engage in opportunistic reporting or accounting choices during a corporate event. In the preceding section, we have already discussed the managerial incentives to engage in downward earnings management prior to rights issues. The second step involves testing whether the chosen reporting or accounting choice is in line with the managerial incentives. In this section, we discuss the methodology to test the presence of downward earnings management.

We examine earnings management in the financial year immediately preceding the rights issue because firms are unlikely to manage their earnings downward in the year of the rights issue. A rights issue fails if the market price of the stock goes below the subscription price at which its holders can exercise the right, and the right-issuing firm has to incur the costs of its failure (Heinkel & Schwartz, 1986). Managing earnings downward in the year of the rights issue entails the risk of stock-price going down the subscription (or exercise) price of the rights offering and subsequently resulting in failure of the rights issue. However, a firm can manage its earnings downward prior to announcing the rights offering without having to worry about its failure.

The managerial judgment in the financial reporting process can creep in to take one or more of the following forms of managing earnings: accrual-based earnings management and real earnings management. Even though real earnings management is more costly in the long run

(Bereskin, Hsu, & Rotenberg, 2018), managers may resort to it because it is a more opaque channel to manage earnings, and it may not always be possible for managers to achieve the desired earnings target using accrual management alone (Graham, Harvey, & Rajgopal, 2005; Gunny, 2010; Roychowdhury, 2006). Since firms may manage their earnings using more than one technique, studying only one type of earnings management technique may lead to drawing incomplete and sometimes even incorrect conclusions (Fields, Lys, & Vincent, 2001; Zang, 2012). Therefore, we study both accrual-based as well as real earnings management.

We now describe the proxies used for each of these techniques.

3.1 Accrual-based earnings management

The insiders of a right-issuing firm can use their discretion in the accounting process and alter the recognition of accruals for opportunistically managing earnings downward. We use the cross-sectional Jones (1991) model modified by Dechow, Sloan, and Sweeney (1995) and as given by equation (1) to model the accrual process and arrive at the discretionary accruals. Following Kothari, Leone, and Wasley (2005), we additionally control for return on assets in equation (1) to overcome the model misspecification for extreme levels of firm performance. In our results, we also use the standard cross-sectional Jones model after omitting change in receivables (ΔREC) in equation (1) to model the accrual process.

$$\frac{TACC_{i,t}}{Assets_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{(\Delta Sales_{i,t} - \Delta REC_{i,t})}{Assets_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{Assets_{i,t-1}} + \beta_3 \frac{EBXI_{i,t}}{Assets_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

where, for firm i and fiscal year t , $TACC_{i,t}$, $\Delta Sales_{i,t}$, $\Delta REC_{i,t}$, $PPE_{i,t}$, and $EBXI_{i,t}$ denote the total accruals, change in sales, change in receivables, gross value of property, plant and equipment, and income before extraordinary items, respectively. We scale all the above variables by the lagged

value of total assets, $Assets_{i,t-1}$, for mitigating the heteroskedasticity in residuals. We use the cash flow approach to arrive at the total accruals, $TACC_{i,t}$, as given by equation (2) because accruals obtained from balance sheet approach may get contaminated by non-operating events such as mergers and acquisitions (Hribar & Collins, 2002), and they are also likely to be overestimated (Ball & Shivakumar, 2008).

$$TACC_{i,t} = EBXI_{i,t} - CFO_{i,t} \quad (2)$$

where, $CFO_{i,t}$ denotes cash flow from operations for firm i in fiscal year t .

The residual obtained from equation (1), which is the difference between the observed total accruals and the model predicted normal accruals, gives us the performance-adjusted abnormal or discretionary accruals for firm i in fiscal year t ($PADJ_ABN_TACC_{i,t}$). For the sake of maintaining consistency with the proxies for real earnings management described in Section 3.2, we also compute the residual from equation (1) after omitting the performance term (that is, income before extraordinary items scaled by lagged total assets), and denote it by $ABN_TACC_{i,t}$. We term it as the raw abnormal accruals.

3.2 Real earnings management

In addition to manipulating accruals, insiders of a right-issuing firm can also manage its earnings downward by altering real activities in one of the following ways. First, insiders can decelerate sales using stricter credit terms or price premiums. The stricter credit terms and price premiums will temporarily deflate sales volumes in the current period. As a result, the sales as well as earnings come down. However, stricter credit terms and price premiums result in higher cash

inflow per sale in the current period. Further, the higher margins on account of price premiums make production costs abnormally low for a given level of sales.

Second, insiders can engage in underproduction in order to reduce current period earnings. When a firm produces a lesser number of units than it produces normally, the fixed costs have to be spread over a relatively small number of units, and the fixed cost per unit rises. So long as the increase in fixed cost per unit is not offset by a decrease in marginal cost per unit, the total cost per unit goes up. As a result, the reported cost of goods sold also goes up, and the operating margin comes down. However, the firm has to incur lower than normal production and holding costs in the current period due to underproduction. Consequently, for a given level of sales, the cash flow from operations is higher in the current period.

Finally, insiders can also increase discretionary expenses such as those associated with research and development, advertising, and sales and distribution in order to decrease current period earnings. The abnormal increase in discretionary expenses may, however, also lower the current period cash flows if most of the discretionary expenses are incurred in cash.

From the above discussion, it follows that firms that manage earnings downward using real activities are expected to have at least one of the following for a given level of sales: abnormally high cash flow from operations, abnormally low productions costs, or abnormally high discretionary expenses. The predictions for abnormal levels of cash flow from operations, production costs, and discretionary expenses (for a given level of sales) for each income-decreasing real activity are summarized in Table A2 in the Appendix.

We base our measures of real earnings management on the prior literature (D. A. Cohen & Zarowin, 2010; Roychowdhury, 2006). In particular, we model cash flow from operations (*CFO*),

production costs (*PROD*), and discretionary expenses (*DISX*) as given in equations (3), (4), and (5), respectively.

$$\frac{CFO_{i,t}}{Assets_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{Sales_{i,t}}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \varepsilon_{i,t} \quad (3)$$

$$\frac{PROD_{i,t}}{Assets_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{Sales_{i,t}}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{i,t} \quad (4)$$

where, for firm *i* and fiscal year *t*, *PROD*_{*i,t*} denotes the production cost obtained by summing up the cost of goods sold (*COGS*_{*i,t*}) and the change in inventory (*ΔINV*_{*i,t*}).

$$\frac{DISX_{i,t}}{Assets_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{Sales_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{i,t} \quad (5)$$

where, for firm *i* and fiscal year *t*, *DISX*_{*i,t*} denotes the discretionary expenses obtained by summing up the research and development, advertising, and sales and distribution expenses.

The residuals obtained from models given in equations (3), (4), and (5) give us the abnormal cash flow from operations (*ABN_CFO*_{*i,t*}), the abnormal productions costs (*ABN_PROD*_{*i,t*}), and the abnormal discretionary expenses (*ABN_DISX*_{*i,t*}), respectively, for firm *i* in year *t*.

Just like accrual earnings management, the proxies for real earnings management may also be misspecified if we ignore firms' investment opportunity sets (D. Cohen, Pandit, Wasley, & Zach, 2019). Following Skinner (1993) and Cohen, Pandit, Wasley, and Zach (2019), we use return on assets measured by income before extraordinary items scaled by lagged total assets as a proxy for firms' investment opportunity sets. Similar to Mao and Renneboog (2015), we use return on assets term as an additional control in our regression equations (3), (4), and (5), and term the residuals obtained from the updated equations as the performance-adjusted abnormal cash flow

from operations ($PADJ_ABN_CFO_{i,t}$), the performance-adjusted abnormal productions costs ($PADJ_ABN_PROD_{i,t}$), and the performance-adjusted abnormal discretionary expenses ($PADJ_ABN_DISX_{i,t}$), respectively, for firm i in year t .

In addition to the individual real earnings management measures, we also construct two aggregate measures of real earnings management that are increasing in the degree of real earnings management. In particular, we follow Cohen and Zarowin (2010) and Zang (2012) to construct the two measures given by equations (6) and (7).

$$ABN_RM1_{i,t} = -ABN_DISX_{i,t} + ABN_PROD_{i,t} \quad (6a)$$

$$PADJ_ABN_RM1_{i,t} = -PADJ_ABN_DISX_{i,t} + PADJ_ABN_PROD_{i,t} \quad (6b)$$

$$ABN_RM2_{i,t} = -ABN_CFO_{i,t} - ABN_DISX_{i,t} \quad (7a)$$

$$PADJ_ABN_RM2_{i,t} = -PADJ_ABN_CFO_{i,t} - PADJ_ABN_DISX_{i,t} \quad (7b)$$

Consistent with prior literature, we require a minimum of 8 observations in an industry-year combination for computing our proxies for accrual-based as well as real earnings management (D. A. Cohen & Zarowin, 2010; Doukakis, 2014).

3.3 Multivariate regression model

We run the regression model given by equation (8) to estimate whether rights-issuing firms manage their earnings downward.

$$\begin{aligned} EM_PROXY_{i,t-1} &= \alpha + \beta RIGHTS_IND_{i,t} + \gamma' FIRM_CONTROLS_{i,t-1} + Year\ fixed\ effects \\ &+ Industry\ fixed\ effects + \varepsilon_{i,t-1} \end{aligned} \quad (8)$$

The dependent variable, $EM_PROXY_{i,t-1}$, in equation (8) denotes our proxies for accrual-based and real earnings management one year prior to the year of the rights issue. Our main variable of interest is $RIGHTS_IND_{i,t}$ – an indicator variable that takes a value of 1 if firm i has issued a rights offering in year t , and 0 otherwise. In line with our hypothesis, we expect a significantly negative β , the coefficient on $RIGHTS_IND_{i,t}$, after controlling for firm-level factors that are likely to affect the degree of earnings management.⁶ In particular, we control for the size of the firm ($SIZE$), firm leverage (LEV), firm age (LOG_AGE), firm performance (ROA), whether the firm is making losses ($LOSS$), and firm growth ($SALES_GROWTH$). We also control for a suspect firm-year ($SUSPECT$) depending on whether income before extraordinary items scaled by assets lies in the interval (0, 0.005). Further, since cash flow from operations has a negative association with abnormal accruals (Becker, Defond, Jiambalvo, & Subramanyam, 1998), we include operating cash flows scaled by sales (CFO_TO_SALES) as an additional control when the dependent variable is abnormal accruals. The definitions of variables are given in Table A3 in the appendix. We also control for year and industry fixed effects to take into account the unobserved heterogeneity across time as well as industries. We winsorize all the continuous variables at the top and bottom 1% of their respective distributions to mitigate the effect of outliers. Further, we cluster the standard errors at the firm and year level to correct for time-series and cross-sectional dependence in our data (Gow, Ormazabal, & Taylor, 2010; Petersen, 2009).

⁶ We follow Kim, Kim and Zhou (2017) to choose most of our firm-level control variables.

4 Data and descriptive statistics

We derive our initial sample of rights offerings announced between the fiscal years 1996 and 2016 from the Prime database that has frequently been used in the prior literature to get the data on IPOs and SEOs (see, for example, Bubna and Prabhala (2011) and Jindal and Seth (2019)).^{7 8} We combine the right issues data with firm-level financial data from Prowess – a comprehensive database of financials of Indian firms maintained by the Centre for Monitoring Indian Economy (CMIE). Prowess has been extensively used in the prior literature to get the financial data of Indian firms (see, for examples, Khanna and Palepu (2000), Gopalan, Nanda, and Seru (2014), Manchiraju and Rajgopal (2017), and Aghamolla and Li (2018)). Since Prime database does not provide a unique identifier for the right-issuing firms that can be readily matched with Prowess, we employ text-based and hand-matching of firm names from the two databases. We also look for company name changes to make sure that we do not miss out on right-issuing firms that changed their names at some point after issuing the rights. We exclude the rights issues by firms that we could not match in Prowess.

We start our sample of rights offerings from the fiscal year 1996 because the availability of cash flow data in Prowess starts from the fiscal year 1995 onwards, and our aim is to examine earnings management one fiscal year prior to the rights issue. We consider the issue of rights offerings made until the end of the fiscal year 2016 for which we need the annual statements of firms until the fiscal year 2015. We put this restriction on our sample period to ensure the comparability of financial numbers because India started converging towards the International

⁷ We refer a fiscal year by the same calendar year in which the fiscal year ends. For example, a fiscal year that starts from April 1, 1995 and ends in March 31, 1996 is referred to as the fiscal year 1996.

⁸ For a vast majority of Indian firms, the fiscal year ends in March 31. Therefore, we choose the rights offerings announced from April 1, 1995 (starting of fiscal year 1996) until March 31, 2016 (ending of fiscal year 2016).

Financial Reporting Standards (IFRS) and required companies to mandatorily adopt the IFRS compatible Indian Accounting Standards (Ind AS) starting from the fiscal year 2016 in a phased manner depending on their net worth.

We exclude the following types of rights issues from our sample: (1) rights issues by public sector undertakings because the principal shareholder (government) is likely to have a different set of motives compared to other types of shareholders, (2) rights issues along with simultaneous issues of other security classes such as preference shares, convertible debt etc. to isolate the effect of rights issues alone on earnings management, (3) rights issued within 365 days of the FPO issues because of having conflicting earnings management incentives, (4) rights issues by firms from the banking and financial sector owing to their different capital structure and regulatory requirements, (5) rights issued by firms with fiscal year-end other than March 31 to ensure that we are computing the abnormal accruals and abnormal real activities consistently, (6) rights issued by firms with insufficient accounting information to arrive at the earnings management proxies, and (7) rights issued by firms in years that have less than 8 observations in the same industry-year combination to compute earnings management proxies. Table 1 describes the step-by-step procedure to arrive at our final sample of 371 rights offerings.

[INSERT TABLE 1 ABOUT HERE]

We summarize the distribution of rights offerings by fiscal year (Panel A) and industry (Panel B) in Table 2. We classify the rights-issuing firms into industries based on the National Industrial Classification (NIC) scheme of economic activities published by the Government of India and derived from the United Nation's International Standard Industrial Classification (ISIC).⁹

⁹ The National Industrial Classification (NIC) scheme of all economic activities published by the Government of India is available at https://udyogaadhaar.gov.in/UA/Document/nic_2008_17apr09.pdf.

The distribution of rights offerings has been skewed over the years and across the industries. The fiscal year 1996 constitutes about one-fourth of the rights offerings over the sample period. The issue of rights offerings has come down over time. Further, firms from the manufacturing industry comprise of about 72% of the rights offerings.

[INSERT TABLE 2 ABOUT HERE]

Table 3 provides the descriptive statistics of the rights-issuing firms in the sample. The mean offer size – the amount of money that a firm intends to raise in a rights offering – is INR 1,474 million.¹⁰ The distribution of offer size is highly skewed; the median offer size in a rights issue is only INR 143 million. About one-fourth of our sample firms have negative income before extraordinary items. Further, total debt (including short-term and long-term debt) forms about 42% of the total assets of a sample firm on average.¹¹

[INSERT TABLE 3 ABOUT HERE]

5 Empirical analysis

Table 4 presents the mean values of abnormal accruals, abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses for our sample firms one fiscal year prior to the year of the rights issue. In addition to the individual measures of abnormal real activities, we also report their aggregate measures which are increasing in the degree of real earnings management. We report two forms of each earnings management measure, one that takes into account firm performance (which we call as the performance-adjusted abnormal earnings

¹⁰ 1 USD $\cong$ INR 69 (as of June 30, 2019).

¹¹ The maximum value of leverage (total debt as a proportion of total assets) is 1.75 in our sample, which translates to total debt exceeding total assets. We check whether this case is due to discrepancy in our data. A careful scrutiny of the data, however, reveals that the case corresponds to a right-issuing firm having a negative net worth.

measure) and other that does not (which we simply refer to as the raw abnormal earnings measure or simply abnormal earnings measure). We emphasize our results related to performance-adjusted measures because measures of earnings management that do not take into account firm performance are likely to be misspecified (D. Cohen et al., 2019; Kothari et al., 2005).

[INSERT TABLE 4 ABOUT HERE]

We observe that rights-issuing firms exhibit abnormally low accruals, abnormally high cash flow from operations, abnormally low production costs, and abnormally high discretionary expenses. Each of the performance-adjusted measures of earnings management is significant at the 1% level for real activities and at the 5% level for accruals.

Following the research design given in equation (8), Table 5 reports the multivariate results for accrual manipulation prior to rights offerings with standard errors clustered at the firm and year level. Using the standard Jones model as well as the modified Jones model, we find a significantly negative coefficient on *RIGHTS_IND*, the indicator variable for a rights-issuing firm-year. This evidence is consistent with our hypothesis that rights-issuing firms manage their accruals downward prior to the issue of rights offerings. With regard to economic significance, we observe that rights-issuing firms manage their accruals downward by as much as 2% of their total assets.

[INSERT TABLE 5 ABOUT HERE]

Moving on to the multivariate results on real earnings management in Table 6, we find in Panel A that the coefficient on *RIGHTS_IND* is significantly positive for abnormal cash flow from operations, significantly negative for abnormal production costs, and significantly positive for discretionary expenses for the performance-adjusted measures of real activities. For raw abnormal real activities measures that do not take into firm performance, we find relatively weak results. In Panel B of Table 6, we report the aggregate measures of real earnings management and find a

significantly negative coefficient on *RIGHTS_IND* irrespective of whether we use performance-adjusted abnormal measures or raw abnormal measures. Overall, these results indicate that firms also engage in income-decreasing real earnings management prior to the issue of rights offerings.

[INSERT TABLE 6 ABOUT HERE]

Further, we check whether the change in corporate governance enforcement during our sample period has had any effect on the earnings management tendencies of firms. Although corporate governance reforms in India were introduced through the listing agreement with stock exchanges in 2000, the enforcement of these reforms came primarily in October 2004 through sanctions in the form of criminal and financial penalties for non-compliance (Dharmapala & Khanna, 2013). Therefore, following the prior literature, we divide our sample period into two sub-periods – first, a period of lax corporate governance enforcement during the fiscal years 1995-2004, and then a period of relatively strict corporate governance enforcement during the fiscal years 2005-2015.

The results given in Table 7 reveal the earnings management by rights-issuing firms during the two sub-periods we identify based on the degree of enforcement of the corporate governance reforms. While we find evidence of income-decreasing real earnings management by rights-issuing firms throughout our sample period, we find income-decreasing accrual manipulation limited to the period of weak corporate governance enforcement. The evidence is consistent with the notion that stricter enforcement of corporate governance helps in curbing primarily those means of earnings manipulation that are easier to detect. Further, these results are also consistent with prior literature which shows that firms move away from accrual earnings management following sweeping changes in corporate governance through reforms such as the Sarbanes-Oxley Act (D. A. Cohen, Dey, & Lys, 2008).

[INSERT TABLE 7 ABOUT HERE]

6 Discussion and conclusion

In this paper, we investigate whether firms engage in income-decreasing earnings management for tunneling wealth from their non-participating minority shareholders to participating insiders prior to the issue of rights offerings, one of the forms of SEOs. We base our analysis on a sample of rights offerings issued by firms in India, a market with a high incidence of rights issues and concentrated shareholding in the hands of insiders. We find that firms manage their earnings downward prior to the issue of rights offerings by manipulating accruals as well as real activities. Our results are in sharp contrast to the prior evidence of upward earnings management around the issue of FPOs, another form of SEOs. Further, the enforcement of corporate governance reforms brings down the rights-issuing firms' tendencies for accrual manipulation, but the manipulation of real activities remains largely unabated.

Our results on income-decreasing earnings management prior to the issue of rights offerings are likely to hold in those settings where insiders have strong incentives as well as the ability to expropriate minority shareholders. The insiders' incentives are an increasing function of their shareholding in the firm (subject to a certain shareholding limit) and also whether they can subscribe to the unsubscribed portion of the minority shareholders just like they can do in India.¹² Further, insiders' ability to expropriate the wealth of minority shareholders is a function of the regulations related to the rights issues vis-à-vis the takeover code as well as those related to the

¹² A vast majority of the rights offerings in India are not underwritten by investment bankers. The insiders of the rights-issuing firms, however, often express their intentions to subscribe to their own entitlement as well as to the unsubscribed portions of the rights offerings in the letters of offer. In such a setting, insiders have greater incentives to engage in income-decreasing earnings management than they would have without this option.

enforcement of corporate governance.¹³ So, income-decreasing earnings management is likely to be stronger in regimes where insiders have both incentives and ability to tunnel the wealth of minority shareholders without much fear of getting caught. A cross-country study based on varied environments can test these conjectures.

This study also has implications for the studies that make an effort to solve the “rights offer paradox” (that is, non-usage of rights offerings as a means to raise finance as opposed to more costly alternatives such as underwritten FPOs in markets such as the US).¹⁴ Holderness and Pontiff (2016) and Holderness (2018) advance agency conflicts as a possible explanation for “rights offer paradox” and argue that rights issues are possibly more common in those countries where the agency costs are relatively less. Our results, however, do not support their conjecture because we find strong evidence of agency conflicts in India¹⁵, and despite these agency conflicts, rights issues far outnumber FPO issues in India. We, however, do not attempt to answer this question in the paper and leave it to future work.

¹³ For instance, insiders of a firm can take advantage of the rights issue route to increase their shareholding in the firm without circumventing the provisions of the takeover code that mandates an obligation to make an open offer to the minority shareholders in case of substantial acquisition of shares or transfer of control. We highlight this stylized fact in Section 2 of the paper.

¹⁴ Smith (1977) was probably the first one to recognize the existence of rights offer paradox.

¹⁵ In addition to agency conflicts manifested in the form of tunneling of wealth around rights issues, we also observe that rights issues do not require shareholder approval in India, and it is in stark contrast to the mandatory shareholder approval for FPO issues (Holderness, 2018).

Appendix

Wealth transfer around the issue of rights offerings

Suppose a firm has 100 million shares outstanding with its insiders owning 60% stake in the firm and that each share trades at a price of \$100 in the stock market. The firm, therefore, has a market capitalization of \$10,000 million. Further, suppose the firm plans to issue a rights offering with one right for every share and that 5 rights can be used to buy one share at a subscription price of, say, \$70. Now, there can be several possibilities to the subscription of the rights offering. Without loss of generality, we limit ourselves to the following scenarios to drive our point related to redistribution of wealth among existing shareholders of the firm under different scenarios.

Scenario I: 100% take-up by all shareholders and no earnings management

If all existing shareholders of the firm subscribe completely to the rights issue, the firm needs to issue 20 million (100 million / 5) new shares to the existing shareholders with insiders getting 12 million and other shareholders getting 8 million. Thus, insiders now own 72 million (60 million + 12 million) shares and minority shareholders own 48 million (40 million + 8 million) shares. The percentage stake of insiders as well as other shareholders remains unchanged. The firm raises funds to the tune of \$1,400 million (20 million * \$70), and the market capitalization of the firm goes up to \$11,400 million (\$10,000 million + \$1,400 million). The price per share falls after the issue to rights to \$95 (\$11,400 million / 120 million). Each right, therefore, carries a value of \$5 ($\$ \frac{95-70}{5}$).

Scenario II: 100% take-up by insiders of their entitlement, no take up by other shareholders, and no earnings management

If only insiders subscribe to the rights offering to the full extent of their entitlement and no other shareholder subscribes to the offering, it may result in a wealth transfer from minority shareholders to insiders. As in Scenario I, insiders now own 72 million shares. However, other shareholders continue to own 40 million shares because they do not take part in the rights offering. The non-participation of minority shareholders in the rights offering brings down their proportional shareholding to 35.71% ($40 / [40 + 72]$). The shareholding of insiders, on the other hand, goes up to 64.29% ($72 / [40 + 72]$). The market capitalization of the firm goes up by \$840 million ($12 \text{ million} * \70), the amount it raises in the rights offering, and it now stands at \$10,840 million. The market value of equity of other shareholders decreases to \$3,871.43 million (35.71% of \$10,840 million), which translates to a wealth transfer of \$128.57 million ($\$4000 \text{ million} - \3871.43 million) from minority shareholders to insiders just due to non-participation of minority shareholders in the rights offering. Further, each right now carries a value of \$5.36 ($\$ \frac{96.79-70}{5}$).

Scenario III: 100% take-up by insiders of their entitlement as well as of the unsubscribed portion of the rights offering, no take-up by other shareholders, and no earnings management

In addition to fully subscribing to the complete share of their own entitlement, if insiders also subscribe to the entitlement of minority shareholders in the event of their complete non-participation in the rights offering, the extent of wealth transfer is even greater than what is calculated in Scenario II. All the 20 million newly issued shares under this scenario go to the insiders, and they now command 66.67% ($80 \text{ million} / 120 \text{ million}$) stake in the firm. The stake of minority shareholders, on the other hand, goes down to 33.33% ($40 \text{ million} / 120 \text{ million}$). The

firm raises \$1,400 million and its market capitalization goes up to \$11,400 million, same as given in Scenario I. However, the market value of equity of other shareholders now stands at \$3,800 million (33.33% of \$11,400 million), a decrease of \$200 (\$4,000 – \$3,800) million. Each right carries a value of \$ 5 ($\$ \frac{95-70}{5}$), same as that of Scenario I. The loss of \$200 million to minority shareholders can also be thought of as the value of one right times the number of rights not subscribed to ($\$5 * 40$ million).

Scenario IV: 100% take-up by insiders of their entitlement as well as that of the unsubscribed portion of the rights offering, no take-up by other shareholders, and downward earnings management making each share undervalued by \$6

In addition to what is given in Scenario III, suppose the insiders of the firm have managed its earnings downward to make each share undervalued, say, by \$6 and the market has been unable to unravel the downward earnings management. This effectively means that the value of firm's each share is \$106 (that is, \$6 more than the present market price of \$100). Further, suppose that the market corrects the mispricing immediately after the rights issue is complete. Therefore, the market capitalization of the firm after the rights issue goes up to \$12,000 million (\$10,000 million + \$6 * 100 million + \$70 * 20 million), which translates into a share price of \$100 (\$12,000 million / 120 million). Further, this scenario translates to each right carrying a value of \$6 ($\$ \frac{100-70}{5}$) instead of \$5 in the case of “no earnings management”. Minority shareholders in this scenario suffer a wealth transfer of whopping \$240 million ($\$106 * 40$ million – $\$100 * 40$ million) including a transfer of \$40 million due to downward earnings management to insiders without them doing anything!

We summarize all the four scenarios in Table A1. As we can observe, the extent of wealth transfer increases from Scenario I to Scenario IV. This analysis is based on several simplifying assumptions including the absence of market imperfections and that market value of a firm represents its intrinsic value in the absence of earnings management.

Table A1: A hypothetical example of changes in shareholding pattern and wealth transfer around rights issues

This table reports the changes in the shareholding pattern of a hypothetical rights-issuing firm as well as the wealth transfer from minority shareholders to insiders under several possible scenarios. The firm has 100 million shares outstanding with its insiders owing 60% stake in the firm and each share of the firm trades at a price of \$100 in the stock market. The firm plans to issue a rights offering with one right for every share and that 5 rights can be used to buy one share at a subscription price of \$70. Now, there can be several scenarios to the subscription of the rights offering.

Scenario I: (i) 100% take-up by all shareholders, and (ii) no earnings management.

Scenario II: (i) 100% take-up by insiders and no take-up by minority shareholders, (ii) insiders do not subscribe to unsubscribed portion of minority shareholders, and (iii) no earnings management.

Scenario III: (i) 100% take-up by insiders and no take-up by minority shareholders, (ii) insiders subscribe to unsubscribed portion of minority shareholders, and (iii) no earnings management.

Scenario IV: (i) 100% take-up by insiders and no take-up by minority shareholders, (ii) insiders subscribe to unsubscribed portion of minority shareholders, and (iii) each share is undervalued by \$6 due to downward earnings management.

	Before rights issue	After rights issue and its take-up			
		Scenario I	Scenario II	Scenario III	Scenario IV
Total shares outstanding (in million)	100	120	112	120	120
Insider shareholding	60.00%	60.00%	64.29%	66.67%	66.67%
No. of shares with insiders (in million)	60	72	72	80	80
Market value of equity of insider holdings (in \$ million)	6,000.00	6,840.00	6,968.57	7,600.00	8,080.00
Minority shareholding	40.00%	40.00%	35.71%	33.33%	33.33%
No. of shares with minority shareholders (in million)	40	48	40	40	40
Market value of equity of minority holdings (in \$ million)	4,000.00	4,560.00	3,871.43	3,800.00	4,000.00
Share price (in \$)	100.00	95.00	96.79	95.00	100.00
Market value of equity of firm (in \$ million)	10,000.00	11,400.00	10,840.00	11,400.00	12,000.00
Value of one right (in \$)	-	5.00	5.36	5.00	6.00
Wealth transfer from minority shareholders to insiders (in \$ million)	-	0.00	128.57	200.00	240.00

Table A2: Predictions for various real earnings management proxies

This table lists the predictions for abnormal levels of cash flow from operations, production costs, and discretionary expenses for a given level of sales for firms engaging in income-decreasing real activities such as manipulation of sales through stricter credit terms and/or sales premiums, increase in discretionary expenditure, and underproduction.

Activity	Abnormal cash flow from operations	Abnormal production costs	Abnormal discretionary expenses
Sales manipulation	Positive	Negative	-
Increase in discretionary expenditure	Negative	-	Positive
Underproduction	Positive	Negative	-
Overall Impact	Unknown (possibly positive)	Negative	Positive

Table A3: Variable definitions

Variable	Definition	Source
<i>Dependent variables</i>		
ABN_TACC	Abnormal total accruals for a firm-year without controlling for firm performance	Computed using CMIE Prowess data
PADJ_ABN_TACC	Abnormal total accruals for a firm-year after controlling for firm performance	Computed using CMIE Prowess data
ABN_CFO	Abnormal cash flow from operations for a firm-year without controlling for firm performance	Computed using CMIE Prowess data
PADJ_ABN_CFO	Abnormal cash flow from operations for a firm-year after controlling for firm performance	Computed using CMIE Prowess data
ABN_PROD	Abnormal productions costs for a firm-year without controlling for firm performance	Computed using CMIE Prowess data
PADJ_ABN_PROD	Abnormal productions costs for a firm-year after controlling for firm performance	Computed using CMIE Prowess data
ABN_DISX	Abnormal discretionary expenses for a firm-year without controlling for firm performance	Computed using CMIE Prowess data
PADJ_ABN_DISX	Abnormal discretionary expenses for a firm-year after controlling for firm performance	Computed using CMIE Prowess data
ABN_RM1	Sum of ABN_DISX multiplied by negative one and ABN_PROD	Computed using CMIE Prowess data
PADJ_ABN_RM1	Sum of PADJ_ABN_DISX multiplied by negative one and PADJ_ABN_PROD	Computed using CMIE Prowess data
ABN_RM2	Sum of ABN_CFO multiplied by negative one and ABN_DISX multiplied by negative one	Computed using CMIE Prowess data
PADJ_ABN_RM2	Sum of PADJ_ABN_CFO multiplied by negative one and PADJ_ABN_DISX multiplied by negative one	Computed using CMIE Prowess data
<i>Explanatory variables</i>		
RIGHTS_IND	An indicator variable that equals 1 for a right-issuing firm-year, and 0 otherwise	Prime
SIZE	Natural logarithm of total assets	CMIE Prowess
LEV	Total debt to total assets	CMIE Prowess
LOG_AGE	Natural logarithm of number of years since incorporation of the firm	CMIE Prowess
SALES_GROWTH	Change in sales deflated by sales	CMIE Prowess
ROA	Earnings before extraordinary items divided by total assets	CMIE Prowess
LOSS	An indicator variable equal to 1 if earnings before extraordinary items is less than zero, and 0 otherwise	CMIE Prowess
CFO_TO_SALES	Cash flow from operations divided by sales	CMIE Prowess
SUSPECT	An indicator variable equal to 1 if the earnings before extraordinary items divided by lagged value of total assets lies in the interval (0, 0.005)	CMIE Prowess
OFFER_SIZE	Size of rights offering in INR million	Prime

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Table 1: Sample selection

This table shows the stepwise procedure to arrive at the final sample of rights offerings made by listed firms in India from the fiscal year 1996 through the fiscal year 2016. A fiscal year has been referred by the calendar year in which the fiscal year ends. For example, a fiscal year that starts from April 1, 1995 and ends in March 31, 1996 is referred to as the fiscal year 1996.

Step	Count
Number of rights offerings announced between fiscal years 1996 and 2016	792
<i>Less:</i> rights issued by firms which could not be matched with Prowess	(39)
<i>Less:</i> rights issued by public sector undertakings	(13)
<i>Less:</i> rights issues along with simultaneous issues of other security classes	(13)
<i>Less:</i> rights issued by firms that also issued FPOs within 365 days around the rights issues	(48)
<i>Less:</i> rights issues by firms from the banking and financial sector	(131)
<i>Less:</i> rights issued by firms either with fiscal year ends other than March 31 or with insufficient financial data to compute at least one of the earnings management proxies	(153)
<i>Less:</i> rights issued by firms that have less than 8 observations in the same industry-year combination to compute earnings management proxies	(24)
Final sample	371

Table 2: Distribution of rights offerings

This table shows the distribution of rights offerings from fiscal years 1996 through 2016 (Panel A) across various industries at the macro level (Panel B). A fiscal year has been referred by the calendar year in which the fiscal year ends. Each fiscal year ends in Mar 31. The classification of firms into industries is based on the National Industrial Classification (NIC) scheme published by the Government of India.

Panel A: Distribution of rights-issues by year			
Year	Frequency	Percentage	Cumulative percentage
1996	87	23.5	23.5
1997	36	9.7	33.2
1998	24	6.5	39.6
1999	15	4.0	43.7
2000	13	3.5	47.2
2001	12	3.2	50.4
2002	2	0.5	50.9
2003	6	1.6	52.6
2004	10	2.7	55.3
2005	10	2.7	58.0
2006	18	4.9	62.8
2007	23	6.2	69.0
2008	15	4.0	73.1
2009	14	3.8	76.8
2010	19	5.1	81.9
2011	15	4.0	86.0
2012	12	3.2	89.2
2013	13	3.5	92.7
2014	10	2.7	95.4
2015	8	2.2	97.6
2016	9	2.4	100.0
Total	371	100.0	

Panel B: Distribution of rights-issuing firms by industry

Industry	Two-digit NIC codes	Frequency	Percentage
Manufacturing	10, 11, 13, 14, 16, 17, 20-30, 32	269	71.9
Wholesale and retail trade	46, 47	24	78.3
Construction	41, 42	23	84.5
Information and communication	58, 59, 61	20	89.8
Accommodation and food service activities	55	8	92.0
Electricity, gas, steam, and air conditioning supply	35	4	93.0
Human health and social work activities	86	3	93.9
Transportation and storage	49, 50, 52	4	94.9
Administrative and support service activities	77	2	95.5
Professional, scientific, and technical activities	70, 73	2	96.0
Arts, entertainment, and recreation	93	1	96.3
Real estate activities	68	1	96.5
Others (diversified)	-	10	99.2
Total		371	100.0

Table 3: Descriptive statistics

This tables gives the descriptive statistics for the firms that issued rights offerings from fiscal years 1996 through 2016. The variables have been measured for the fiscal year immediately preceding the year of the rights issue. All continuous variables have been winsorized at the top and bottom 1% of their respective distributions to overcome the effect of outliers. The definitions of variables are given in Table A3 in the Appendix.

Variable	N	Mean	St Dev	Min	Q1	Median	Q3	Max
SIZE	371	7.04	1.81	2.27	5.75	6.83	8.35	11.31
LEV	371	0.42	0.20	0.01	0.28	0.43	0.54	1.75
LOG_AGE	371	3.06	0.77	0.69	2.56	3.09	3.61	4.47
SALES_GROWTH	371	0.16	0.55	-8.80	0.07	0.17	0.31	0.94
ROA	371	0.03	0.10	-0.70	0.00	0.03	0.07	0.28
LOSS	371	0.24	0.43	0	0	0	0	1
SUSPECT	371	0.02	0.15	0	0	0	0	1
CFO_TO_SALES	340	0.03	0.89	-11.06	0.00	0.06	0.12	9.00
OFFER_SIZE	371	1,474.47	5,977.59	3.78	51.15	142.71	526.83	74,979.85

Table 4: Univariate results on earnings management by rights-issuing firms

This table reports the abnormal accruals (Panel A), abnormal cash flow from operations (Panel B), abnormal production costs (Panel C), and abnormal discretionary expenses (Panel D) in the year immediately preceding the year of the rights issue. In addition to individual proxies of real earnings management, aggregate measures of abnormal real activities have also been reported (Panels E and F). All earnings management proxies have been winsorized at the top and bottom 1% of their respective distributions to overcome the effect of outliers. The definitions of variables are given in Table A3 in the Appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Abnormal accruals

	Standard Jones Model	Modified Jones Model
ABN_TACC	-0.011	-0.010
PADJ_ABN_TACC	-0.018**	-0.016**
Observations	331	

Panel B: Abnormal cash flow from operations

ABN_CFO	0.018**
PADJ_ABN_CFO	0.029***
Observations	337

Panel C: Abnormal production costs

ABN_PROD	-0.050***
PADJ_ABN_PROD	-0.051***
Observations	305

Panel D: Abnormal discretionary expenses

ABN_DISX	0.018***
PADJ_ABN_DISX	0.018***
Observations	371

Panel E: Abnormal real activities aggregate measure 1

ABN_RM1	-0.064***
PADJ_ABN_RM1	-0.067***
Observations	305

Panel F: Abnormal real activities aggregate measure 2

ABN_RM2	-0.042***
PADJ_ABN_RM2	-0.052***
Observations	337

Table 5: Multivariate results on accrual-based earnings management

This table presents the results of regressing abnormal accruals on *RIGHTS_IND*, our main variable of interest, after controlling for various firm-level determinants of accrual manipulation in addition to year and industry fixed effects. *RIGHTS_IND* is an indicator variable that takes a value of one for a right-issuing firm-year, and zero otherwise. The *t*-statistics are provided in parentheses and are based on the standard errors clustered at the firm and year level for correcting time-series and cross-sectional dependence in the data. All continuous variables have been winsorized at the top and bottom 1% of their respective distributions to overcome the effect of outliers. The definitions of variables are given in Table A3 in the Appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	<i>Standard Jones Model</i>		<i>Modified Jones Model</i>	
	PADJ_ABN_TACC	ABN_TACC	PADJ_ABN_TACC	ABN_TACC
RIGHTS_IND	-0.020*** (-2.648)	-0.023*** (-2.961)	-0.018** (-2.269)	-0.021*** (-2.682)
SIZE	0.001 (1.039)	-0.000 (-0.150)	0.002*** (2.725)	0.001 (1.166)
LEV	0.013*** (4.128)	0.013*** (4.083)	0.014*** (4.773)	0.014*** (4.372)
LOG_AGE	-0.011*** (-8.194)	-0.010*** (-7.224)	-0.012*** (-9.063)	-0.012*** (-8.796)
SALES_GROWTH	0.003*** (2.637)	-0.003** (-2.417)	0.005*** (3.891)	-0.001 (-1.119)
ROA	0.073*** (4.732)	0.562*** (40.092)	0.063*** (4.128)	0.570*** (41.756)
LOSS	0.001 (0.338)	-0.007*** (-2.904)	0.002 (0.750)	-0.009*** (-3.719)
SUSPECT	0.003 (0.923)	-0.002 (-0.671)	0.004 (1.332)	-0.004 (-1.081)
CFO_TO_SALES	-0.042*** (-29.120)	-0.042*** (-27.692)	-0.042*** (-29.598)	-0.042*** (-27.849)
Constant	0.018** (2.153)	0.009 (1.091)	0.013* (1.649)	0.006 (0.713)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Clustered std. errors	Yes	Yes	Yes	Yes
Observations	37,906	37,906	37,906	37,906
Adj. R ²	0.096	0.194	0.096	0.200

Table 6: Multivariate results on real-activities based earnings management

This table presents the results of regressing different individual (Panel A) and aggregate measures (Panel B) of real earnings management on *RIGHTS_IND*, our main variable of interest, after controlling for various firm-level determinants of real earnings manipulation in addition to year and industry fixed effects. *RIGHTS_IND* is an indicator variable that takes a value of one for a right-issuing firm-year, and zero otherwise. The *t*-statistics are provided in parentheses and are based on the standard errors clustered at the firm and year level for correcting time-series and cross-sectional dependence in the data. All continuous variables have been winsorized at the top and bottom 1% of their respective distributions to overcome the effect of outliers. The definitions of variables are given in Table A3 in the Appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Multivariate regression results with different individual measures of real-activities based earnings management as dependent variables

	<i>Abnormal cash flow from operations</i>		<i>Abnormal production costs</i>		<i>Abnormal discretionary expenses</i>	
	PADJ_ABN_CFO	ABN_CFO	PADJ_ABN_PROD	ABN_PROD	PADJ_ABN_DISX	ABN_DISX
RIGHTS_IND	0.019** (2.121)	0.009 (1.004)	-0.024*** (-2.751)	-0.017* (-1.827)	0.010*** (2.747)	0.008** (2.198)
SIZE	0.002*** (4.032)	0.001 (1.598)	-0.004*** (-7.701)	-0.004*** (-6.184)	0.004*** (23.511)	0.004*** (28.535)
LEV	0.004 (1.110)	0.008** (2.421)	-0.026*** (-9.582)	-0.023*** (-8.583)	-0.001 (-1.526)	-0.002*** (-3.812)
LOG_AGE	0.009*** (6.158)	0.010*** (7.094)	-0.019*** (-12.749)	-0.022*** (-14.306)	-0.001 (-1.581)	-0.001*** (-2.746)
SALES_GROWTH	0.001 (0.972)	-0.003*** (-2.708)	-0.008*** (-7.419)	0.001 (1.119)	0.005*** (23.276)	0.006*** (30.355)
ROA	0.008 (0.469)	0.342*** (20.849)	-0.013 (-0.847)	-0.507*** (-31.888)	-0.039*** (-8.614)	-0.013*** (-3.253)
LOSS	0.010*** (3.594)	0.016*** (5.692)	-0.001 (-0.479)	0.003 (0.932)	-0.001 (-1.618)	-0.005*** (-7.122)
SUSPECT	-0.000 (-0.036)	0.001 (0.258)	0.028*** (7.502)	0.032*** (8.408)	-0.011*** (-11.893)	-0.014*** (-14.973)
Constant	-0.049*** (-5.555)	-0.057*** (-6.457)	0.058*** (6.738)	0.067*** (7.526)	-0.008*** (-3.279)	-0.010*** (-4.091)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered std. errors	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,150	40,150	42,024	42,024	59,866	59,866
Adj. R ²	0.008	0.047	0.041	0.109	0.039	0.050

Panel B: Multivariate regression results with aggregate measures of real-activities based earnings management as dependent variables

	<i>Abnormal real activities measure 1</i>		<i>Abnormal real activities measure 2</i>	
	PADJ_ABN_RM1	ABN_RM1	PADJ_ABN_RM2	ABN_RM2
RIGHTS_IND	-0.031*** (-2.944)	-0.022** (-2.037)	-0.031*** (-3.060)	-0.022** (-2.189)
SIZE	-0.008*** (-12.119)	-0.009*** (-12.132)	-0.007*** (-9.956)	-0.006*** (-9.052)
LEV	-0.027*** (-8.463)	-0.023*** (-7.442)	-0.004 (-1.129)	-0.006* (-1.805)
LOG_AGE	-0.021*** (-11.588)	-0.024*** (-13.107)	-0.009*** (-5.594)	-0.009*** (-6.068)
SALES_GROWTH	-0.014*** (-10.985)	-0.005*** (-3.947)	-0.006*** (-4.908)	-0.003** (-2.101)
ROA	0.014 (0.765)	-0.522*** (-27.822)	0.014 (0.756)	-0.316*** (-17.961)
LOSS	0.000 (0.050)	0.007** (2.129)	-0.007** (-2.344)	-0.008*** (-2.662)
SUSPECT	0.037*** (8.489)	0.045*** (10.052)	0.012*** (3.088)	0.015*** (3.806)
Constant	0.072*** (6.847)	0.088*** (8.105)	0.054*** (5.603)	0.065*** (6.661)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Clustered std. errors	Yes	Yes	Yes	Yes
Observations	42,024	42,024	40,150	40,150
Adj. R ²	0.047	0.106	0.017	0.051

Table 7: Earnings manipulation before and after the corporate governance enforcement

This table reports the impact of the enforcement of corporate governance reforms through sanctions/penalties for non-compliance on earning manipulation. The sample period has been divided into two sub-periods: 1995-2004 (the period of lax corporate governance enforcement) and 2005-2015 (the period of relatively strict corporate governance enforcement). The accounting manipulation has been measured in the fiscal year immediately preceding the fiscal year of the rights issue. The results corresponding to only the performance-adjusted earnings management proxies have been reported here. All earnings management proxies have been winsorized at the top and bottom 1% of their respective distributions to overcome the effect of outliers. The definitions of variables are given in Table A3 in the Appendix. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Earnings management measure	Overall	Before CGR enforcement	After CGR enforcement	Difference (Before - After)
PADJ_ABN_TACC (Standard Jones)	-0.018**	-0.038***	0.006	-0.044***
PADJ_ABN_TACC (Modified Jones)	-0.016**	-0.034***	0.005	-0.039**
PADJ_ABN_CFO	0.029***	0.048***	0.006	0.042**
PADJ_ABN_PROD	-0.051***	-0.058***	-0.042***	-0.016
PADJ_ABN_DISX	0.018***	0.013**	0.025***	-0.013*
PADJ_ABN_RM1	-0.067***	-0.070***	-0.062***	-0.008
PADJ_ABN_RM2	-0.052***	-0.064***	-0.037**	-0.027