DO INSIDERS WHO PLEDGE THEIR SHARES MANIPULATE REPORTED EARNINGS?

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Abstract

In January 2009, the Securities Exchange Board of India (SEBI) issued a new regulation that made it mandatory for Indian firms to report the number of shares pledged by their promoters to borrow loans. We take advantage of these quarterly disclosures on share pledges to examine whether and how pledging motivates promoters to manage accruals and discretionary expenses.

Our results suggest that pledging reduces the likelihood of accruals-based earnings management. Potential monitoring by lenders deters earnings management by pledging promoters despite the strong incentive to manage earnings upward. However, when we distinguish between first-time and continuing pledgers we find that the former record positive discretionary accruals, while continuing pledgers record significant negative discretionary accruals. In the first year of the pledge, the incentive to manage accruals upward is sufficiently important that it dominates any deterrence caused by monitoring by lenders. Alternatively, lender monitoring of pledgers is low in that year. After the first year, either the first year's earnings management reverses and / or the deterring effect of lender monitoring becomes strong enough that firms record negative discretionary accruals.

Our examination of discretionary expenses indicates that pledging is associated with lower levels of R&D spending, but is unrelated to advertising costs. Further, the negative association between R&D spending and pledging does not depend on whether the promoters are pledging for the first time or continuing to pledge. The contrasting results for discretionary accruals and R&D are consistent with promoters viewing real management activities such as cutting R&D as being subject to less scrutiny by lenders, auditors, and regulators.

1. Introduction

Several studies in finance and accounting have examined the effect of *corporate* borrowing on a wide variety of firm decisions including investments, dividends, plant closings, and financial reporting choices (see Jackson, Keune, and Salzsieder (2013) for investments, Kalay (1982) for dividends, Kovenock and Phillips (1997) for plant closings, and Defond and Jiambalvo (1994) for accounting choices). In contrast, very little is known about how *personal* borrowing by the insider-owners of these corporations influences the very same decisions. In this study, we address this lacuna by taking advantage of a recent regulation that requires Indian corporations to publicly disclose the number of shares that their promoters have pledged to borrow loans. Specifically, we focus on financial reporting strategy and examine whether share pledge loans by promoters influence the magnitude of short-term earnings management.[1]

In January 2009, the Securities Exchange Board of India (SEBI) issued a new regulation that made it mandatory for firms to report the number of shares pledged by their promoters to borrow loans. The rationale for this new regulation was a concern that the non-disclosure of share pledges may mislead investors about the effective stake of promoters in their firms. Pledging shares is a fairly popular means of raising funds; close to forty percent of our sample of National Stock Exchange (NSE) firms had promoters involved in pledging over the years 2009-2013. Further, within the sample of pledgers, the end-of-quarter mean of pledged shares as a fraction of shares owned ranged from 31 to 42 percent over the same period.

Share pledges involve an insider-owner voluntarily assuming the incremental role of a borrower with the firm's shares serving as collateral. A fall in the firm's share prices subsequent to the pledge can be quite costly to the pledger as the lender can require the

[1] Throughout the paper, we use the terms promoters, managers, and insiders interchangeably.

promoter to pledge more shares to maintain margin levels. Further, the lender can even liquidate the pledged shares to recover the loan, leading to a further fall in price. Hence, we expect that pledging manager to be motivated to take cost-effective actions to support or increase the stock price. We consider upward earnings management as one of the responses that managers will undertake to avoid share price declines. While pledging increases incentives to manage earnings, we expect that the ready availability of daily collateral values will also increase the intensity of monitoring by lenders. Share prices are salient and directly related to loan payoffs. Consequently, pledging can have the opposite effect of deterring earnings management. Thus, it becomes an empirical issue as to whether pledging increases or reduces incentives to manage earnings.

To investigate whether share pledge loans influence earnings management, we assemble a panel data set from Prowess, a database of the Centre for Monitoring the Indian Economy Private Ltd., for the years 2009-2013. We examine two alternate measures of earnings management – discretionary accruals and manipulation of discretionary expenses. Annual estimates of discretionary accruals are constructed using the Jones (1991) model and the modification to the Jones (1991) model proposed by Dechow, Sloan, and Sweeney (1995). To measure pledging, we compute an annual average of shares pledged by promoters scaled by the shares owned by the same promoters. Additionally, we use an indicator variable for whether or not a firm had pledged shares during the year. For our tests of discretionary expense manipulation we examine two expense categories that have been employed in prior research – R&D and Advertising expenses. Rather than estimating abnormal discretionary expenses via a first stage regression (Roychoudhury (2006)), to maximize sample size, we directly correlate the two discretionary expense levels with pledging activity.

Our panel regressions of discretionary accruals/expenses on pledging activity include several control variables including level and changes in promoter share ownership, current and lagged cash flows, four measures of financing activity (equity issuance, buybacks, borrowings, and repayment of loans), capital expenditures, age, leverage, institutional ownership, market capitalization, and the market-to-book ratio. Further, we include firm, year, and industry effects as controls for unobserved heterogeneity and compute standard errors that reflect clustering across firms and years.

Our first set of results show that discretionary accruals are negatively related to pledging activity. We interpret this as suggesting that monitoring by lenders of share pledge loans deters accruals-based earnings management. In contrast to this finding for discretionary accruals, we find that pledging is associated with lower levels of R&D spending. That is, as pledging increases the desire to increase or maintain a stock price motivates pledging promoters to cut R&D spending. We find no such effect for advertising expenses. The differing results for discretionary accruals and discretionary R&D indicate that perceived managerial costs of manipulating the two amounts differ. In a survey of top executives, Graham, Harvey, and Rajgopal (2005) provide evidence that managers prefer real earnings management activities compared to accrual-based earnings management. One reason for this preference is that real management activities are less likely to be scrutinized by auditors and regulators.

To obtain deeper insights into the effect of pledging on earnings management, we compare sub-samples where we expect the incentive to manage earnings to differ. Specifically, we compare firms whose promoters are pledging for the first time during the sample period with firms whose promoters have pledged shares at the beginning of the year and continue to pledge shares throughout the year. We also examine the effect of the

incentive to avoid a loss on the pledging-earnings management relation and compare pledgers that are individuals and corporate pledgers.

Our supplemental regressions provide the following insights. First, pledging promoters manage discretionary accruals upward in the first year of the pledge. However, either because of the reversing nature of accruals and / or increasing monitoring in subsequent years, pledgers engage in lower levels of accruals management than do firms that do not pledge at all. In contrast to discretionary accruals, we observe no difference between first-time and continuing pledgers for discretionary expenses. Second, we find no evidence that the incentive to avoid a loss magnifies pledgers incentives to increase discretionary accruals or to cut R&D. Third, the negative relation between pledging and discretionary accruals is observed for both individual and corporate promoters. However, only individual promoters appear to cut R&D when they pledge shares.

We conduct additional analyses to assess the robustness of our findings. First, for our discretionary accrual models we account for the endogeneity of pledging (as well as that of control variables) with instrumental variable regressions and dynamic panel methods (Blundell and Bond (1998)). Our conclusions remain the same under these alternate estimation methods. Second, we drop observations related to 2009 as the incentives to manage earnings might differ in the first year of the pledging regulation. Third, we use alternate measures for age and institutional ownership (two of our control variables). The results remain unchanged under these modifications.

Our study contributes to the literature that examines the relation between borrowing and financial reporting strategy. While prior research in accounting and finance has focused on corporate-level borrowing, we study how personal borrowing by the firms' insider owners influences reporting strategy. Be that as it may, our evidence relates to a very specific type of borrowing where the collateral consists of firm shares. Hence, more research on how

personal leverage influences insider-owners is warranted. Our study also contributes to the growing literature that examines the relative trade-offs of accrual-based and real earnings management (Cohen, Dey, and Lys (2008); Cohen and Zarowin (2010); and Zang (2012)). Our evidence suggests that, in general, pledging promoters appear to view real earnings management as less costly. However, they do engage in accrual-based manipulation in the first year of the pledge.

The rest of the paper is organized as follows. Section 2 describes the institutional background related to share pledge loans in India. Section 3 presents the links between pledging and earnings management. Section 4 describes the measurement and design choices. In section 5, we discuss sample selection criteria and descriptive statistics and in section 6 we describe the results. Section 7 concludes.

2. Institutional Background

2.1. Pledging Regulation in India

Pledging of shares involves the promoters' use of firm shares as collateral to borrow funds. Lenders are usually commercial banks or non-banking financial institutions. Pledging came under regulatory scrutiny in January 2009 after Mr. Ramalinga Raju, the former chairman of Satyam Computer Services Limited, a leading information technology firm, admitted to falsifying the firm's financial statements. In the week, preceding this admission, lenders liquidated Satyam shares that had been pledged by Mr. Raju, precipitating a significant decline in stock prices.[2]

Before the Satyam scandal, firms and their promoters were not required to disclose the existence or magnitude of share pledges. In light of the increased risk of price declines associated with lenders selling pledged shares, SEBI announced disclosure requirements on

[2] The sell-off by lenders was probably motivated by a significant decline in Satyam's share price in December 2008 and negative news related to Satyam in that month.

January 28th 2009, that require promoters and companies to promptly disclose the number of shares pledged in return for loans. This was achieved by inserting regulation 8A, "Disclosure of Pledged Shares," as an amendment to the *Substantial Acquisition of Shares and Takeovers (Amendment) Regulations, 2007*.

Regulation 8A requires that promoters inform their firms about a share pledge within seven days of commencement of the Regulation. Besides this initial disclosure requirement, the regulation also has a continuing disclosure requirement for promoters and their firms. Promoters are required to inform their firms about a share pledge within seven days of a share pledge.[3] Further, firms are required to disclose the information on share pledges to all the stock exchanges on which the shares of the particular company are listed, within seven days of the receipt of the information from the promoters. The firm-level disclosure requirement is triggered when the number of shares pledged by its promoters exceeds the lower of, (a) 25,000 shares or (b) one percent of the total shareholding of the firm. Additionally, SEBI amended clauses 35 and 41 of the Equity Listing Agreement between firms and stock exchanges. These clauses relate to the quarterly reporting of shareholding pattern of a company and its financial results. The format of these filings was amended to include details of shares pledged by promoters and promoter group entities.

In Appendix I and II, we use a sample firm to illustrate the information on share pledges that is currently available to investors. Appendix I summarizes the information filed by Sri Adhikari Brothers Television Network Ltd. with SEBI on August 18, 2011. The number of firm-level outstanding shares on that date was 24,663,000. Mr. Ravi Gautam

[3] The term promoter has been defined as, "a person or persons who are in over-all control of the company, who are instrumental in the formulation of a plan or program pursuant to which the securities are offered to the public and those named in the prospectus as promoters(s). When the promoter is an individual, the term promoter group includes the promoter and an immediate relative of the promoter (i.e. any spouse, or parent, brother, sister or child of the promoter or of his/her spouse). If the promoter is a company, the promoter group would include (a) the subsidiary or holding company of that company; (b) any company in which the promoter holds 10% or more of the equity capital or which holds 10% or more of the equity capital of the promoter; and (c) any company in which a group of individuals or companies or combinations thereof hold 20% or more of the equity capital or in that company also holds 20% or more of the equity capital of the issuer company.

Adhikari, one of the promoters, pledged 1,500,000 shares on August 11, 2011 and intimated this fact on an unknown date to the firm. At the date of the transaction, Mr. Adhikari held 3,425,000 shares in the firm. Further, he had no other shares pledged, as the cumulative shares pledged by him on that date was also 1,500,000. The pledged shares were 43.8% of the shares held by Mr. Adhikari and 6.08% of the firm shares outstanding.

We also obtained information from the most recent *shareholding pattern filing* that Adhikari Brothers Television Network Ltd. had made before the date of the pledge (quarter ended June 30, 2011). Listed companies in India are required to provide information on their shareholding pattern for every quarter. Appendix II provides relevant (but not all) the information from that filing. Specifically, promoters as a group (seven in number) own 44.57 percent of the outstanding shares. Further, as a group, promoters as a group had pledged 9,465,000 shares or 86.11 percent of their ownership stake. This represents 38.38 percent of the shares outstanding.

Lenders secure their loans to pledgers via a margin arrangement. Typical loan amounts against pledged shares range from fifty to seventy percent of the value of the shares pledged at the pledging date (Shetty (2011)). That is, margin balances range from thirty to fifty percent. Subsequently, if the share price declines, lenders can through a "margin call," either require the lender to repay the entire loan, repay an amount such that the original margin balance is preserved, or increase the collateral by requiring the promoter to pledge more shares. In the event of the promoter being unable to comply with the lenders requirement, the lenders could potentially sell the pledged shares, triggering further stock declines. Promoters also can unilaterally revoke the pledge by repaying the loan. Filing requirements for pledge revocations are identical to those for pledge initiations.

Overall, a wealth of information on the timing and magnitude of pledges is currently available for Indian firms. However, there are some limitations on the nature of information

provided under Regulation 8A. Raju and Sapra (2010) discuss some of these limitations. First, owners other than promoters are not required to disclose share pledges. Second, the detailed breakdown of the purpose for which the funds are being borrowed, the name of the lending entity, and the amount raised through shares pledged is not provided in the disclosure. Specifically, information on whether the promoter is borrowing funds for his own use or for transfer to the firm is unavailable.

At the time of the writing of this paper, the regulation of pledging activity remains a matter of considerable concern for SEBI. For example, the SEBI Chairperson, Mr. U.K. Sinha, in a conference of the Confederation of Indian Industries (CII), stated that, "it (SEBI) will soon frame stricter laws to tackle instances wherein promoters pledge their shares without making the mandatory disclosures on the stock exchanges (Financial Express Bureau (2013))." Further, in an attempt to reduce price volatility, SEBI plans to require that companies with substantial pledged shares be not allowed to trade on equity derivative markets (Gupta (2012)).

2.2. Pledging Regulations in Other Countries

Share pledges are not unique to India as evidenced by disclosure regulations related to these transactions in several other countries. What distinguishes India on this issue is the amount of attention given by SEBI and the business press. In light of the significant coverage of share pledges in the Indian business press, we suspect that share pledges are more frequent and of larger magnitude in terms of economic value in India compared to other countries. In Appendix III, we provide a brief overview of pledging disclosure regulations in six other countries – United States, United Kingdom, China, Hong Kong, Australia, and Singapore.

3. Pledging and Earnings Management

3.1. Incentives to maintain or increase the short-run stock price

Prior studies in the accounting literature have examined managerial desire and ability to manage earnings with a view to manipulate the short-run stock price. The maintained assumptions in many of these studies are that (a) investors cannot unravel the earnings management and (b) the expected costs to the managers if earnings management is unravelled, such as loss of reputation, are lower than the benefits. Several settings where the incentives to manage earnings are magnified have been studied. Teoh, Welch, and Wong (1998) document earnings management via discretionary accruals in the year of a seasoned equity offering. Burgstahler and Dichev (1998) provide evidence that firms tend to avoid reporting losses and earnings and declines, as missing benchmarks (zero and last year's earnings) would be penalized by the market. Beneish and Vargus (2002) document evidence of managers pumping their firm's share prices via discretionary accruals before selling their holdings to make trading profits. Bergstresser and Philippon (2006) provide evidence that CEOs whose compensation is more sensitive to their firm stock prices engage in more earnings management.[4] While a significant body of evidence supporting earnings management is now available, the findings of these studies and the interpretations of results have been questioned (see for example, Dechow, Richardson, and Tuna (2003) and Ball and Shivakumar (2008)). Thus, whether managers manage earnings to increase the short-term price is a subject that is controversial and worthy of further research.

In this study, we study how share pledge loans provide incentives to maintain or increase the current stock price via earnings management. As discussed in the previous section, a share pledge loan involves an insider-owner voluntarily assuming the incremental role of a borrower. Importantly, the firm's shares constitute the collateral for these loans and a fall in the stock price can be very costly for the borrower. Typically, share pledge loans are

[4]This list is illustrative; Dechow, Ge, and Schrand (2010), in their review of earnings quality, provide several references.

granted against a significant margin. For example, a fifty percent margin loan would imply that the loan amount would equal half the value of the shares placed in collateral on the date of the loan. If the share price increases subsequently, these loans would not trigger any response by the lender. However, if the stock price falls, then the lender can take one of three actions: (a) require the borrower to pledge more shares; (b) enforce early repayment of part or all of the loan balance; or (c) sell the underlying shares to recover the loan amount. Additionally, these responses of the lender can trigger a torpedo effect where share prices fall further. Thus, falling share prices are very costly to the pledging manager and she would be motivated to take cost-effective actions that can support or increase the stock price. We consider earnings management as one of the responses by managers to avoid share price declines. As discussed earlier, we assume that earnings management is not unravelled by the market and increases the share price in the short run.

3.2. Monitoring and the effect of collateral

While share pledge loans create incentives to manage earnings upward, the use of shares as collateral can significantly reduce the incentive to manage earnings. Rajan and Winton (1995) show that, in general, the presence of collateral leads to more efficient monitoring by lenders. In the share pledge setting, the value and expected payoffs from loans are readily visible to the lender on a daily basis. Because of the salience of collateral values, we expect lenders to be more active in monitoring their borrowers. The increased monitoring by lenders is likely to deter managers from engaging in costly actions such as earnings management.[5] An additional reason that reduces the likelihood of earnings management is that firms whose managers pledge shares tend to have lower operating cash flows and book

[5] The monitoring role of debt, in general, and of lending financial institutions, in particular, has been proposed by several authors. Grossman and Hart (1982) argue that debt increases the threat of bankruptcy which is costly for managers and hence motivates them to work harder. Jensen (1989) makes a poetic case for debt as sword that can be an effective means to force managers to rationalize their investment decisions and thus minimize wasteful cash outflows. Some studies predict that private debt has a significant advantage over public debt in terms of monitoring efficiency (Diamond (1984); Boyd and Prescott (1986)).

profits, and higher debt-to-assets ratios than non-pledging firms (we provide empirical evidence consistent with this). These characteristics which are correlated with financial distress are likely to increase monitoring by lenders and deter earnings management even further.

Share pledge loans fall under the broad umbrella of debt; hence, research on the effect of debt on earnings management is relevant to our research. Prior research generally predicts that earnings management will be positively related to debt. When debt is relatively high, managers are likely to manage earnings upward to reduce the likelihood of costly debt covenant violations (Watts and Zimmerman (1986); Defond and Jiambalvo (1994)). In contrast to this "covenant hypothesis," the monitoring effect of debt has received less attention. Two recent studies make a case for a negative relation between debt and earnings management. Using bank loan data, Ahn and Choi (2009) find that a borrowing firm's earnings management decreases as the strength of bank monitoring increases.[6] Ghosh and Moon (2010) provide evidence of non-linear relation between earnings quality and debt with positive relation at low levels of debt and negative at high debt levels. They interpret this as evidence that monitoring deters earnings management at low levels of debt but the desire to avoid debt covenants dominates when debt increases beyond a certain level.

Overall, the desire to manage earnings upward and the deterring effect of lender-monitoring have opposite effects and their relative sizes are unobservable. Therefore, we use our empirical analyses to shed light on which if the two effects dominate. That is, we do not offer a signed prediction on the effect of share pledges on earnings management.

3.3. Pledger Characteristics and Earnings Management

[6] The strength of bank monitoring is measured as (1) the magnitude of a bank loan, (2) the reputation (rank) of a lead bank, (3) the length of a bank loan, and (4) the number of lenders.

While our primary objective is to examine the relation between share pledge loans and earnings management, we compare the effect of pledging on earnings management for sub-samples to get additional insights.

First, it is possible that the effect of pledging on earnings management varies with the level of pledging. We allow for this possibility by estimating a piece-wise linear function of earnings management on pledging with breakpoints at the 33rd and 66th percentiles.

Second, we evaluate differences in earnings management by firms whose insiders are pledging shares for the first time during our sample period and firms whose insiders had pledged shares at the beginning of the year and continue to pledge shares throughout the year. We expect "first-time" pledgers to manage earnings more than "continuing" pledgers for two reasons. First, a key property of earnings management is that it reverses. Thus, upward earnings management in one year is likely to be followed by earnings declines in subsequent years. Firms can avoid these declines by repeatedly managing earnings in subsequent years, but sustained earnings management is very costly and is likely to be detected. Second, lenders' ability to unravel earnings management is also likely to improve over time. Thus, the deterrence effect of monitoring is likely to be higher in subsequent years compared to the first year.

Third, prior research in accounting and finance provides evidence that firms engage in earnings management to avoid falling below a benchmark such as zero earnings, last year's earnings, or the most recent analyst forecast (Burgstahler and Dichev (1997); Degeorge, Patel, Zeckhauser (1999)). We focus on a simple benchmark of zero earnings and examine if the relation between pledging and earnings management is magnified for the sub-sample of firms that "just managed" to avoid a loss.

Fourth, we are able to distinguish between pledges by individuals and those by corporations. The key difference between individuals and corporations is that whereas

individuals have unlimited liability and are exposed to loss of personal property in the event of default, corporations are limited liability entities and hence their underlying owners are not exposed to such losses. Because of the higher loss likelihood in the event of share price declines, individuals are more likely to manage earnings upward. However, anticipating this, lenders may subject individuals to a higher degree of scrutiny and hence deter earnings management. In light of these opposing effects, we again use our empirical analysis to examine relative magnitudes of earnings management by individuals and corporations.

3.4. Controlling for Stock Ownership

Prior research has examined whether managerial ownership influences the magnitude of earnings management. Two competing views on this relation have been proposed in this research stream. The agency view of share ownership is that as managers' ownership increases their incentives become more closely aligned with that of outsiders (Jensen and Meckling (1976)). Consequently, they are less likely to engage in value-reducing behaviour such as short-term earnings management. On the other hand, the entrenchment view of share ownership is that increased managerial ownership is associated with less monitoring of managers and leads to more earnings management (Leuz, Wysocki, and Nanda (2003)). This second view is especially plausible in non-US countries where levels of ownership concentration are relatively high and minority shareholders are unlikely to have the incentives or resources to monitor insiders (La Porta, Lopez-de-Silanes, and Shleifer (1999)).[7]

Because share pledges can be viewed as a contract that combines equity ownership with debt, it becomes important to control for the incentive effects of ownership. In our

[7] The empirical evidence on the earnings management-ownership relation has in general been mixed; that is, both views have been supported. Warfield, Wild, and Wild (1995) find that, consistent with the alignment hypothesis, the absolute value of discretionary accruals when managerial ownership is under five percent is more than twice that for firms with managerial ownership above 45 percent. In contrast, Haw, Hu, Hwang, and Wu (2004) and Leuz (2006) document a positive association between ownership and earnings management for samples that include U.S. and non-U.S. firms. Gopalan and Jayaraman (2012) find evidence of higher earnings management by insider-controlled firms in weak investor protection countries and some weak evidence of lower earnings management by insider-controlled firms in strong investor protection countries.

empirical work we regress measures of earnings management on pledging and include the level of managerial ownership as a control variable.

4. Measurement and Regression Specifications

In this section, we define and motivate our measures of pledging, earnings management, and regression specifications.

4.1. Measuring Pledging

Insiders who pledge shares are required to report this event to their firms within seven days of borrowing. These firms, in turn, report the same event to the exchanges within seven days of receiving the information. Additionally, firms have a quarterly filing requirement where they report both their ownership structure and aggregate shares pledged by all promoters as a group at the end of the quarter (a stock measure). Thus, data on pledging is available at daily and quarterly frequencies.

In India, financial reporting during our sample period (March 2009 – March 2014) is at the quarterly and annual frequencies. However, quarterly filings do not contain detailed balance sheet information or cash flow statements. Earnings management is therefore measurable only with annual data. Thus, although we have information on pledging at a relatively high frequency, to align our measures of earning management and pledging, we construct annual measures of firm-level pledging. Specifically, for each quarter and each firm, we define the following:

PLEDQ = (Shares Pledged by All Promoters) / (Shares Owned by All Promoters)

Note that this measure would equal zero if a firm's promoters did not have any share pledges at the end of a quarter. To align our measure of pledging with our measures of annual earnings management, we compute an average PLEDQ over the four quarters of the fiscal year. We label this measure as PLEDP.

Our pledging measures attempt to capture incentives for earnings management at two points. First, if managers would like to maximize loan proceeds by increasing the share price *before* pledging shares, then they would engage in earnings management before pledging. Second, managers are also likely to engage in earnings management to support the stock price *subsequent to* pledging. By measuring pledging levels as an average over the entire year, we attempt to capture both these incentives.

4.2. Accruals-based Earnings Management

To calculate discretionary accruals, we use the cross-sectional version of the Jones (1991) model. For each two-digit NIC group j and year t we estimate the following cross-sectional regression:

$$\frac{ACC_{it}}{TA_{it-1}} = \alpha_0 + \alpha_1 \frac{\Delta REV_{it}}{TA_{it-1}} + \alpha_2 \frac{GPPE_{it}}{TA_{it-1}} + \varepsilon_{it} \quad (1)$$

where ACC is the accruals of the firm and equals income before extraordinary items minus cash flows from operations, ΔREV equals change in sales, GPPE is Gross Property, Plant, and Equipment and equals the sum of Gross Fixed Assets and Capital Work in Progress, and TA is the total assets of the firm. We require that each industry-year group has data on all the four variables in Eq. (1) for at least eight observations. The residuals of these regressions are our first proxy for accruals-based earnings management (JONES_DA):

$$JONES\_DA_{it} = \frac{ACC_{it}}{TA_{it-1}} - \alpha_0 - \alpha_1 \frac{\Delta REV_{it}}{TA_{it-1}} - \alpha_2 \frac{GPPE_{it}}{TA_{it-1}} + \varepsilon_{it} \quad (2)$$

As a second proxy, we compute MJONES_DA, popularly termed as Modified Jones Discretionary Accruals and first proposed by Dechow, Sloan, and Sweeney (1995). The modification consists of estimating Eq. (1) and then computing the residuals as follows:

$$MJONES\_DA_{it} = \frac{ACC_{it}}{TA_{it-1}} - \alpha_0 - \alpha_1 \frac{(\Delta REV_{it} - \Delta REC_{it})}{TA_{it-1}} - \alpha_2 \frac{GPPE_{it}}{TA_{it-1}} + \varepsilon_{it} \quad (3)$$

where ΔREC is the change in accounts receivable. MJONES_DA equals JONES_DA plus α_1 times ΔREC; this adjustment is an attempt to capture earnings management via overstatement of accounts receivable.

To examine the relation between our two discretionary accrual proxies (DA) and pledging, we estimate panel regressions:

$$DA_{it} = b_0 + b_1 PLEDP_{it} + b_2 PROMP_{it} + b_3 INS\_TR_{it} + b_4 OCF_{it} + b_5 LAGOCF_{it} + b_6 CAPEX_{it} + b_7 EQISS_{it} + b_8 BUYBACK_{it} + b_9 CFBORROW_{it} + b_{10} CFREPAY_{it} + b_{11} MCAP_{it-1} + b_{12} MB_{it-1} + b_{13} INSTOWN_{it-1} + b_{14} AGE_{it} + b_{15} LEV_{it-1} + \delta_{it} \quad (4)$$

We include firm fixed effects on the right hand side to account for time-invariant determinants of discretionary accruals at the firm level. The firm fixed effects are modelled by subtracting firm-level means of all the variables in the model (dependent and independent variables).[8] We also include year fixed effects and industry fixed effects, the latter being defined based on 2-digit NIC code.

Our main independent variable that measures the influence of pledging is PLEDP. PROMP is the ownership percentage of promoters calculated as an average of quarter-end promoter ownership over the four quarters of the fiscal year. As discussed earlier, its effect on discretionary accruals could be either positive or negative. Beneish and Vargus (2002) provided evidence of insiders managing earnings upward before selling their shares. To capture the effect of insider trading on earnings management, we include change in the shares held by the promoters over the fiscal year, scaled by firm level shares outstanding at the beginning of the year (INS_TR).

Prior studies show that discretionary accruals are negatively related to operating cash flows. The negative relation is partly driven by management's use of accruals to smooth out

[8] We also model fixed effects by first-differencing all variables except the dummy variables. Our results are the same under this modification.

fluctuations in cash flows. Hence, we include operating cash flows scaled by total assets at the beginning of the year (OCF). Evidence in Dechow and Dichev (2002) suggests the lagged cash flows are positively associated with future accruals; accordingly we include lagged value of OCF (LAGOCF). We include capital expenditures during the year scaled by lagged assets (CAPEX) as accruals are likely to grow when firms invest more. We include four variables that capture the spectrum of financing activities of the firm – issuance of equity (EQISS), buyback of equity (BUYBACK), borrowing of debt (CFBORROW), and repayment of debt (CFREPAY). As funds available increase via EQISS and CFBORROW, investment in accruals is likely to increase; repayments (BUYBACK and CFREPAY) will result in lower funds causing disinvestment in accruals. In addition to the effect of increase in availability of funds, equity issuance can increase incentives to manage earnings to manipulate the offer price and support the price in the post-offering period (Teoh, Welch and Wong (1998), for example). We scale capital expenditures and all four financing flows by beginning of period total assets.

We include the market capitalization at the beginning of the year (MCAP) as a control variable to control for differences in accruals caused by firm size. We include the ratio to market to book value of equity (MB) at the beginning of the year as firms are likely to invest in accruals as growth opportunities increase. Prior studies present two different faces for institutional owners. One view is that they are active monitors of firms and hence increase in their ownership levels is likely to deter earnings management (Bushee (1998); Bartov, Radhakrishnan, Krinsky (2000); Edmans (2009)). An alternative view is that institutions are focused on the short-term and therefore encourage firms to manage earnings ((Coffee (1991); Graham, Harvey, and Rajagopal (2005)). Accordingly, we include the percentage shares held by institutions at the beginning of the year (INSTOWN) without a predicting the sign of its effect.

Our last two control variables are age and leverage. We include the age of the firms relative to its year of incorporation as we expect young firms to grow more rapidly and hence have higher levels of accruals. We include the ratio of a firm's borrowings to total assets at the beginning of the year (LEV) to measure leverage. As discussed earlier, leverage can deter earnings management or create incentives for managing earnings upward if firms wish to avoid debt covenant violations.

4.3. Discretionary Expenses and Pledging

In addition to manipulation of accruals, firms can boost earnings by cutting discretionary expenses even though these expenses are value-enhancing from the long-run perspective (Baber, Fairfield, and Haggard (1991); Roychowdhury (2006); Gunny (2010)). This myopic practice is an example of what is termed as real earnings management. Because cutting discretionary expenses do not constitute violations of GAAP, they do not impose the potential reputation losses associated with the unravelling of accruals-based earnings management.

The two discretionary expense categories that we examine are R&D and Advertising. Roychowdhury (2006) and others estimate earnings management via R&D cuts by applying a two-step procedure. First, they regress R&D deflated by beginning assets on one divided by beginning assets and lagged sales divided by beginning assets for each industry-year group in their samples. Abnormal R&D is computed as the residual from these regressions and in the second stage it is regressed on measures of incentives for earnings management (for example, equity issuance).

Because the first-stage regressions require a minimum number of observations per industry-year, the two stage procedure would reduce our sample size considerably. To avoid this reduction, we directly regress expense amounts on pledging and control variables and

infer earnings management based on the sign and significance of the coefficients on the pledging variables. Our models for discretionary R&D and Advertising Expense are:

$$DISC\_EXP_{it} = b_0 + b_1 PLEDP_{it} + b_2 PROMP_{it} + b_3 INS_{TR_{it}} + b_4 LAGEXP_{it} + b_5 SGRO_{it} + b_6 OCF\_A_{it} + b_7 LAGOCF_{it} + b_8 CAPEX_{it} + b_9 EQISS_{it} + b_{10} BUYBACK_{it} + b_{11} CFBORROW_{it} + b_{12} CFREPAY_{it} + b_{13} MCAP_{it-1} + b_{14} MB_{it-1} + b_{15} INSTOWN_{it-1} + b_{16} AGE_{it} + b_{17} LEV_{it-1} + \delta_{it} \quad (5)$$

Again, we include firm, year, and industry effects in our regressions. DISC_EXP equals either R&D or Advertising scaled by beginning assets. If pledging motivates promoters to cut these expenses to boost earnings, the coefficient on PLEDP is expected to be negative. PROMP and INS_TR are included to examine if the level and changes in ownership influence earnings management.

In addition to all the control variables in the model for discretionary accruals, we include two additional variables – lagged value of the expense scaled by beginning assets (LAGEXP) and contemporaneous change in sales scaled by beginning assets (SGRO). The lagged value of the expense controls for normal time-variation in the expense. As current sales growth is a signal of future growth, we expect firms to spend more on expenses when their sales grow.

We include contemporaneous operating cash flows scaled by beginning assets (OCF), and its lagged value (LAGOCF), because spending is likely to be influenced by availability of internal funds. Capital Expenditures (CAPEX) can be an alternate use of limited funds and can hence constrain spending on R&D and Advertising. The four financing activities that raising and returning equity or debt capital (EQISS, BUYBACK, CFBORROW, and CFREPAY) are additional sources / uses of funds that can expand or contract the amount available for expense outlays. Firms' lagged market-capitalization (MCAP) is a generic control for firm size. In the classical investment model, a firm's growth opportunities are a

key determinant of investment spending. We measure growth opportunities with the ratio of lagged market value of equity to book value equity (MB) and expect it be positively related to the expense variables.

The last three control variables are beginning of period institutional ownership (INSTOWN), age of the firm (AGE), and the ratio of beginning borrowings to beginning assets (LEV). Institutional owners can encourage or discourage spending on R&D and Advertising depending on whether they have a long-term or short-term horizon. Age captures life-cycle differences in spending – for example, younger firms are likely to invest more in R&D than will older firms. Lastly, lenders typically are averse to spending on R&D and Advertising because the returns to these investments are more uncertain than to investments in tangible property. Hence, we expect leverage to be negatively related to the expense amounts.

Appendix IV contains the definitions of all the variables in our regression models (Eq. (4) and (5)).

5. Sample and Data Description

Our data source for all variables is the Prowess Database maintained by the Center for Monitoring Indian Economy Private Limited. We begin with all firms listed on the NSE during the period January 2009 to March 2014. After removing duplicates and firm-years with no information on fiscal year-ends, our initial sample consists of 1,721 firms that span 9,579 firm-years. We exclude a very small set of firm-years (n=13) that do not have March, June, September, or December fiscal year-ends. We also exclude firm-years in which a firm changes its fiscal year end (n=538). Excluding firm-years for which data on ownership or pledging is missing (n=460) and financial services firms (n=1,056) leaves us with 7,512 firm-years. Data-availability restrictions reduce the sample further: we suffer a data loss of 580

firm-years because of non-availability of data to compute discretionary accruals and 586 firm-years because of missing data related to control variables. Thus, our usable sample is 6,346 firm-years. Of these, 2,306 relate to firms whose insiders pledged shares during the year (pledgers), and 4,040 are "non-pledgers." Table 1 summarizes our sample selection criteria. Several of our analyses have additional data requirements causing sample sizes to be lower than this baseline number of 6,346.

We begin our empirical work by reporting time-series averages of shares pledged deflated by shares owned, for the twenty-one quarters between March 2009 and March 2014, in Figure 1 and Table 2. Recall that the SEBI regulation for disclosures of pledges was introduced at the end of January 2009; hence, the first quarter-end for which pledging data is available is March 31st, 2009. We provide separate trends for the following categories of promoters: all, Indian, individual Indian, corporate Indian, other Indian, and foreign. The "other Indian" category includes financial institutions and governments. In Figure 1, the averages reflect the zero values related to non-pledgers; in Table 2, we exclude zero values to present the higher averages conditional on pledging activity. The discussion that follows concentrates on the data in Table 2.

After remaining flat until December 2010, at approximately 32 percent, average pledged shares for the "all promoters" category trends gently upward to about 42 percent by March 2014. The upward trend is also observed for the "Indian", "individual Indian", and "corporate Indian" categories. The time series averages for the "other Indian" and "foreign" categories are more variable, reflecting the small sample sizes for these two categories. Clearly, when they pledge their shares, promoters pledge a significant fraction of their shareholdings. The second feature of the data is that individuals and corporations are the dominant categories in terms of number of firms in which they are promoters. This feature

motivates restricting our comparisons of the effects of pledging on earnings management to these two major categories.

Table 3 reports the industry distribution of pledging activity. Thirty-four industries are represented in our sample with pledging being more prevalent in some industries than in others. We account for this inter-industry variation in the propensity to pledge by including industry effects in all our regression models.

Table 4 reports descriptive statistics for the dependent and independent variables for the pledging and non-pledging sub-samples. We use a matched pair design where each pledging firm-year is matched with a non-pledging firm-year on fiscal year end, industry (2-digit NIC code), and firm size. Size is measured as book value of total assets. When matching on size, we match with replacement; therefore, the same non-pledging firm-year can be matched with multiple pledging firm years. Except for one firm-year, the total assets of all matched non-pledging firm-years are within 70% to 130% of that of their pledging peers. Barber and Lyon (1996) report that the 70% to 130% filter yields test-statistics that are well-specified in tests of abnormal performance. All variables are winsorized at the one percent level to minimize the influence of outliers. Statistical significance for differences in means across sub-samples is based on the classical t-test and that for differences in medians is based on the non-parametric Wilcoxon test.

Pledging firms have significantly lower mean and median levels of promoter ownership (PROMP) compared to non-pledgers. Both pledgers and non-pledgers record increase in annual shareholdings as evidenced by the positive means for INS_TR; however, median changes are close to zero. A word of caution about interpreting the averages on INS_TR is that they reflect the effect of market transactions (buys and sells) by insiders as well as their participation in rights issues.

Pledgers have lower accruals and discretionary accruals both in terms of means and medians. For example, pledgers record mean MJONES_DA of -0.4 percent; by comparison non-pledgers record mean MJONES_DA of 0.6 percent, contributing to a one percent differential in return on assets between the two groups. The univariate evidence suggests that the deterring monitoring effect of share pledge loans dominate the incentives to increase the short-run price.

Turning to the control variables, pledgers are growing at a slower rate than non-pledgers in terms of annual sales (SGRO). Pledgers are less profitable than non-pledgers both in terms of ROA (income before extraordinary items deflated by beginning assets) and in terms of operating cash flow deflated by assets. Pledgers are investing less in capital expenditures than non-pledgers, but are raising more capital via equity issues (only medians are significantly different) and borrowings of loans. However, pledgers are also repaying loans at a higher rate than non-pledgers (only medians are significantly different).

While mean total assets of pledgers are significantly larger than that of non-pledgers, mean market capitalizations of the two groups are statistically indistinguishable. Median numbers for the size metrics provide the opposite result. Thus, our size matching procedure is only partially effective. Pledgers have slightly lower market-to-book ratios than non-pledgers, with median numbers being statistically significant. Institutions own higher percentages of the shares of pledgers. Turning to the data on age, pledgers are on average 31 years old, whereas non-pledgers are somewhat older with a mean age of 35. Pledgers have higher leverage ratios, measured by debt to total assets. In contrast to the data on cash flows, pledgers have slightly higher mean current ratios; median current ratios of the two groups are similar.

In summary, based on financial characteristics, we can characterize firms whose promoters pledge shares as less profitable, growing less rapidly in terms of sales growth and

capital expenditures, raising more capital in equity and loan markets, and more levered than non-pledgers. Because these characteristics could influence both earnings management and the likelihood and intensity of pledging it becomes important to control for them in the regression analyses.

6. Regression Results

6.1. Pledging and Discretionary Accruals

Table 5 contains our regressions that relate accrual-based earnings management and pledging. All specifications include firm fixed effects, year effects, and industry effects. Additionally, standard errors account for heteroscedasticity and clustering across firms within a year and across years within a firm (two-way clustering). We report results for Jones Model Discretionary Accruals (JONES_DA) in Panel A and Modified Jones Model Discretionary Accruals (MJONES_DA) in Panel B. Our measure for pledging is PLEDP and it equals the annual average shares pledged by promoters scaled by the shares owned by them at the beginning of the year. The control variables include average promoter ownership, change in shareholdings of promoters, current and lagged operating cash flows, capital expenditures, four measures of financing activities, market capitalization, market-to-book ratio, institutional ownership, age of the firm, and beginning of year debt-to-assets ratio.

The first finding from column (1) of Table 5 is that for both measures of earnings management, PLEDP is significantly and negatively related to discretionary accruals (t-statistic = -4.39 and -4.15). In column (2), we augment the regression with a control for change in insider shareholdings (INS_TR). While this variable is not significantly related to discretionary accruals, the negative effect of pledging on discretionary accruals remains. Overall, our first set of results suggests that pledging firms report less discretionary accruals than non-pledgers. We interpret this result as showing that lenders of share pledge loans deter

earnings management. Alternately, pledging firms could have characteristics that make reputation concerns stronger for them and hence lowers the incentive to manage earnings upward.

Next, to assess if the relation between pledging and discretionary accruals is constant for different levels of pledging, we estimate a piecewise linear regression. We divide pledging firms into three groups based on the level of pledging: PLEDLOW, PLEDMED, and PLEDHIGH and define three corresponding dummy variables. We interact these dummies with PLEDP and include the three interaction terms as independent variables. Effectively, non-pledgers become the baseline group and the coefficients on the interaction terms represent the effect of pledging on discretionary accruals for the three groups relative to non-pledgers. Column (3) reports the results of the piecewise linear regressions. Interestingly, the coefficients on the interaction between PLEDP and the medium and high levels of pledging are negative and significant at conventional levels for both measures of earnings management. At low levels of pledging, pledging does not significantly influence earnings management. Thus, the results suggest that pledging deters earnings management only when pledging as a fraction of insider share ownership becomes sufficiently high.

Our findings for control variables are as follows. Promoter ownership (PROMP) is strongly and positively related to discretionary accruals. This finding is consistent with the findings of Gopalan and Jayaraman (2012) that predicts and finds that in economies with weak investor protection, insider-controlled firms tend to record higher levels of earnings management. Operating cash flows (OCF) is strongly and negatively related to discretionary accruals. This is likely to be the result of firms using accruals to smooth earnings. Consistent with prior research (Dechow and Dichev (2002)), lagged cash flows (LAGOCF) are positively related to discretionary accruals.

We find that firms tend to have higher levels of accruals when they invest more in capital expenditures (CAPEX). Equity issuance (EQISS) is also associated with higher discretionary accruals. Several studies have interpreted this effect as indicating that firms manage earnings upward to temporarily increase or support the offer price. However, as Ball and Shivakumar (2008) point out, this may merely reflect that incremental investment in working capital that happens when there as an influx of funds. Consistent with this idea, discretionary accruals are significantly lower when firms repay their loans (CF_REPAY). Of the remaining variables, cash inflows in borrowings (CF_BORROW), lagged market capitalization (MCAP), and leverage (LEV) are significantly related to discretionary accruals in one model, but not both. Hence, we hesitate to emphasize these findings.

To provide more insight into the relation between pledging and earnings management, we conduct three additional analyses. In these analyses, we incrementally augment the regressions in Table 5 with explanatory variables that provide a sharper characterization of pledging. Specifically, we examine (a) the difference between promoters who are pledging for the first time in our sample period and those that continue their status as pledgers (b) the interaction between pledging and the incentive to avoid reporting a loss (c) the difference between promoters who are individuals and promoter corporations.

To implement our first supplemental analysis, we create three sub-samples of pledgers: (a) first-time pledgers - firm-years that had no pledges outstanding at the beginning of the year, but whose promoters commence pledging during the year; (b) continuing pledgers - firms that had some pledged shares at the beginning of the year and continue to have outstanding pledges throughout the year; and (c) withdrawing pledgers - firms that had

pledged shares at the beginning of the year but with pledge levels coming down to zero during the year.[9]

Table 6 presents mean and median values of accruals and two measures of discretionary accruals for the three pledger sub-samples and for non-pledgers. The differences are quite striking. While first-time pledgers record positive discretionary accruals, continuing pledgers record negative discretionary accruals. Further, the mean and median discretionary accruals of continuing pledgers are significantly lower than non-pledging firms.

In Table 7, col. (1), we incorporate the effect of first-time versus continuing pledgers on discretionary accruals by including a dummy variable that equals one for first-time pledgers, and zero otherwise as a regressor (FIRST_TIME). Panel A contains the results where the dependent variable is JONES_DA and panel B contains results for MJONES_DA. We suppress results related to control variables to conserve space. Consistent with the univariate results, first-time pledgers have significantly higher discretionary accruals than do other firms (Col. (1)). The results suggest that pledging promoters engage in earnings management in the first year of the pledge. However, either because of the reversing nature of accruals and / or increasing monitoring in subsequent years, pledgers engage in lower levels of accruals management than do firms that do not pledge at all.

Our second supplemental analysis examines the interaction between pledging and the incentive to avoid a loss. Prior research in accounting and finance provides evidence that firms engage in earnings management to avoid falling below a benchmark such as zero earnings, last year's earnings, or the most recent analyst forecast (Burgstahler and Dichev (1997); Degeorge, Patel, Zeckhauser (1999)). We focus on the simplest of these benchmarks

[9] This classification requires data on the existing of pledging for two consecutive years. Because pledging data was disclosed only from March 2009, observations from 2009 cannot be classified into one of these three categories. Hence, the 1,150 observations from that year are excluded from the analysis in Table 6.

– zero; that is firms like to avoid losses because a small loss is viewed more unfavourable than a small profit of identical magnitude.[10]

In Figure 2, we present evidence of this phenomenon for our sample via a histogram of ROA (defined as income before extraordinary items deflated by beginning assets). Consistent with prior work, each bar represents a 0.5 percent interval. Indian firms, like U.S. firms, display a significant discontinuity in their ROA distribution around zero. While two percent of the firms have ROA just below the zero benchmark, the percentage of firms that just beat the zero benchmark is 4 percent. Prior work treats the firm-year in the bar just to the right of zero as "suspect firm-years" that arrive there by manipulating earnings. We follow this convention and define a dummy variable that equals one if a firm's ROA is between 0.0 and 0.5 percent, and zero otherwise (BEAT_DUM). Next, we return to regression analysis to see how pledging interacts with the incentive to avoid losses.

In column (2) of Table 7, we include BEAT-DUM as well as the interaction between BEAT_DUM and PLEDP as regressors for discretionary accruals. Essentially, BEAT_DUM represent a group of firms that are likely to have managed earnings and we want to examine if the activity of pledging magnifies this incentive. The results indicate that BEAT_DUM is not significantly related to discretionary accruals. Further, the interaction term has no impact on accruals management. Thus, the results indicate that pledging firms do not use discretion over accruals to avoid losses.

Our third supplemental analysis examines the effect of the type of promoter on the incentive to manage earnings via discretionary accruals. Column (3) of Table 7 replaces the average pledging variable, PLEDP, with average pledging by two categories of promoters: individuals (PLED_IND) and corporations (PLED_CORP). The coefficients on both

[10] Degeorge et al. (1999) offers some psychological explanations for why thresholds assume importance: the human mind distinguish between positive (achieving a target) versus negative (missing a target); individuals evaluate outcomes based on reference points; investors use rules of thumb to reduce transaction costs and increase efficient decision making.

variables are negative and significant at conventional levels. Thus, the deterring effect of pledging on earnings management affects both individual and corporate promoters.

6.2 Endogeneity and Robustness checks

A serious concern with the results in Table 5 is that pledging is potentially an endogenous variable. That is, firms whose promoters pledge shares self-select into a group of firms that have low quality earnings. We use an instrumental variables approach to address the simultaneity of earnings management and pledging. Identifying the effect of pledging on earnings management requires instrumental variables that affect pledging but do not directly impact earnings management.

The three instrumental variables that we use are the lagged volatility of stock returns, the ratio of beginning gross plant and equipment to total assets, and the market-wide stock return. We use volatility because firms are less likely to pledge when their firm's stock price is volatile so as to avoid costly margin calls. Our volatility measure is based on monthly returns, with the monthly return defined as the log of the ratio of the adjusted month end closing price to its lagged value. We require twelve monthly observations to estimate volatility. Almeida and Campello (2007) argue that assets that are more tangible sustain more external financing because such assets mitigate contractibility problems: tangibility increases the value that can be captured by creditors in default states. Therefore, we expect that firms with more tangible assets to be more likely to have their promoters pledge their shares. We include the ratio of beginning gross plant and equipment to assets to measure tangibility. Because the positive association between market returns and firm returns, we posit that promoters are more likely to pledge shares when market returns increase so that the maximize loan proceeds. We use an annual market return measured as the sum of twelve monthly returns for the CNX 500 Index reported in Prowess.

Before we estimate the models of earnings management with two-stage least squares (2SLS), we perform the Wu-Hausman test (Hausman (1978)) to determine whether pledging and earnings management are jointly endogenous. We reject the null hypothesis of no endogeneity at the one per cent level for both measures of earnings management. Consequently, OLS regressions that ignore the endogeneity of pledging can be potentially misleading because they generate inconsistent estimates.

In untabulated results, we find that the coefficient on PLEDP remains statistically significant even under the 2SLS specification. For the JONES_DA model, the coefficient on PLEDP is -0.005 with a t-statistic of -2.98. The corresponding numbers with the MJONES_DA model are -0.005 and -3.21. Thus, pledging influences earnings management after controlling for its endogeneity.[11]

In addition to the potential endogeneity of PLEDP, several of the independent variables such as EQISS, CF_BORROW, and CAPEX could also be endogenous. To mitigate this concern, we also estimate use the generalized method of moments (GMM) dynamic panel estimation method proposed by Blundell and Bond (1998). The GMM estimation method accounts for unobserved heterogeneity as well as simultaneity. In the first stage, all the variables are first-differenced to remove the effect of unobserved heterogeneity. In the second stage, the lagged values of the explanatory variables as well as lagged values of their differences are used as instruments for the explanatory variables. In untabulated results, we find that, the PLEDP remains statistically significant when we employ the dynamic panel estimator. The coefficient on PLEDP with the JONES_DA model is -0.0003 (t-statistic = -

[11] To evaluate the validity of the instrumental variables, we compute two test-statistics. First, we compute the F statistic from the first stage regressions for the three instrumental variables. We find that the F statistics for both of the first stage regressions are significant at the 1 per cent level. Consequently, we reject the null hypothesis that the instrumental variables are uncorrelated with the endogenous variables. Second, we also compute the Hansen (1982) J statistic, which is a test of over-identifying restrictions. Under the null hypothesis, the instrumental variables are uncorrelated with the error term. We find that the J statistic is small with p-values of 0.34 for the Jones model measure and 0.49 for the Modified Jones model measure. Therefore, we cannot reject the null hypothesis that the instrumental variables are uncorrelated with the error term.

1.79, p-value = 0.07) and that for the MJONES_DA model is -0.0003 (t-statistic = -1.80, p-value = 0.07).

We also perform additional robustness checks to confirm our main findings. First, the incentive of promoters to engage in earnings management might differ in the first year in which the pledging regulation was introduced. Therefore, we eliminate data from 2009 and re-estimate our regressions. PLEDP remains negative and significantly related to both JONES_DA and MJONES_DA for this sub-sample.

Second, in our tabulated results we measure the age of the firm as the difference between the fiscal year for which data is measured and the year of incorporation. We replace this measure with two alternate measures: industry-adjusted age and the ratio of retained earnings to total assets, the latter being motivated by the evidence in DeAngelo, DeAngelo, and Stulz (2006). Our results are qualitatively similar with this change.

Third, monitoring by the lenders of share pledge loans is likely to be influenced by the supply of monitoring from other sources. To capture such alternate monitoring, we include the lagged ownership levels of two institutional owner categories instead of the broad institutional ownership variable (INST): ownership by foreign institutional owners and ownership by banks and financial institutions. Neither of these variables is significantly related to earnings management. Further, our conclusions related to PLEDP remain the same.

6.3. Pledging and Discretionary Expenses

To examine the effect of pledging on discretionary expenses, we examine a sub-sample of firms that report non-zero R&D or non-zero advertising in the years 2009-2014. Panel A of Table 8 compares R&D and Advertising, both scaled by lagged assets, for pledgers and non-pledgers. While mean and median R&D levels for the two groups are statistically indistinguishable, pledgers record significantly lower mean and median

advertising expense than do non-pledgers. Because both expenses are likely influenced by several other variables, we turn to multiple regression analyses to draw our inferences.

In panel B of Table 8, we report the regressions of discretionary expenses on pledging and control variables. All regressions include firm fixed effects (incorporated by first-differencing the dependent and independent variables (except the dummy variables)), year effects, and industry effects; further, standard errors account for two-way clustering. Depending on whether the incentive to manage earnings or the deterring effect of monitoring dominates, we expect to observe a negative or positive coefficient on the pledging variables (PLEDP). Columns (1) and (2) contain results for R&D and columns (3) and (4) contain the results for advertising.

Column (1) of Table 8 indicates that PLEDP is significantly and negatively related to R&D (t-statistic = -3.05). Thus, as pledging intensity increases firms tend to spend less on R&D to boost profits. Interestingly, PROMP which measures the level of promoter ownership also bears a significant negative relation with R&D. Further, INSTR which measures the change in insider share ownership is positively and significantly related to R&D. In contrast to the results for discretionary accruals, being a first-time pledger (FIRST_TIME) has no impact on R&D spending. Further, pledging is positive related to R&D spending levels when a firm has just managed to avoid a loss (BEAT_DUM * PLEDP). In column (2), we replace overall promoter pledging with pledging by individual promoters (PLEDP_IND) and corporate promoters (PLEDP_CORP). The t-statistic for PLEDP_IND is -3.11 compared to -1.72 for all promoters and suggests that the incentive to cut R&D is stronger for individual promoters than other types of promoters. Corporate promoters pledging activity does not affect R&D spending. The statistical significance of the interaction between PLEDP and BEATDUM is no longer significant in this specification. Among the control variables, CAPEX alone is significantly related to R&D spending.

Columns (3) and (4) contain the results for the regressions of advertising on PLEDP and control variables. Neither of the pledging variables have a significant relation with advertising expenses. Further ownership levels, first-time pledges, and avoiding a loss are also unrelated to advertising expenses. Among the control variables, sales growth, capital expenditures, and equity issuance are positively related to advertising and cash flows from borrowings and leverage have a negative effect.

In summary, our results suggest that pledging motivates promoters to manage accruals upward in the first year of the pledge. In subsequent years, however, pledging is associated with negative discretionary accruals either because accruals reverse or because monitoring by lenders deters accruals-based earnings management. In contrast to our findings on discretionary accruals, firms tend to cut R&D by larger amounts as pledging intensity increases, and this association does not depend on whether the promoter is a first-time pledger or a continuing pledger. The contrasting results for discretionary accruals and R&D are consistent with promoters viewing real management activities such as cutting R&D as being subject to less scrutiny by lenders, auditors, and regulators.

7. Conclusions

This study provides evidence on how share pledge loans influence promoters' desire and ability to manipulate reported earnings. We examine both accruals-based earnings management and real earnings management based on R&D and advertising expenses.

Collectively, the results suggest that pledging reduces the likelihood of accruals-based earnings management. Potential monitoring by lenders deters earnings management by pledging promoters despite the strong incentive to manage earnings upward. However, when we distinguish between first-time and continuing pledgers we find that the former record positive discretionary accruals, while continuing pledgers record significant negative

discretionary accruals. In the first year of the pledge, the incentive to manage accruals upward is sufficiently important that it dominates any deterrence caused by monitoring by lenders. Alternatively, lender monitoring of pledgers is low in that year. After the first year, either the first year's earnings management reverses and / or the deterring effect of lender monitoring becomes strong enough that firms record negative discretionary accruals.

Our examination of discretionary expenses indicates that pledging is associated with lower levels of R&D spending, but is unrelated to advertising costs. Further, the negative association between R&D spending and pledging does not depend on whether the promoters are pledging for the first time or continuing to pledge. The contrasting results for discretionary accruals and R&D are consistent with promoters viewing real management activities such as cutting R&D as being subject to less scrutiny by lenders, auditors, and regulators.

While our study focuses on how share pledge loans influence financial reporting, the effect of share pledges on other firm policies – investment, dividend, and financing represent promising areas for future research. Additionally, comparing share pledge loans with loans against collateral of tangible properties would increase our understanding on how collateral influences borrower and lender behaviour.

Appendix I

Disclosures of Share Pledges under Regulation 8A (4) of SEBI (Substantial Acquisition of Shares & Takeovers) Regulations, 1997 to BSE

Name of Firm: Sri Adhikari Brothers Television Network Ltd

Date of Reporting by Company to SEBI: August 18, 2011

Total number of outstanding shares of the Company: 24,663,000

Name of the Entity: Ravi Gautam Adhikari

Date of Transaction: August 11, 2011

Number of Shares Pledged: 1,500,000

Aggregate details after the transaction:

Total number of shares held by the entity in the company: 3,425,000

Total number of shares pledged: 1,500,000

% of shares pledged to total number of shares held by the entity in the company: 43.80%

% of shares pledged to total no of outstanding shares of the Company: 6.08%

Appendix II

Information obtained from Statement Showing Shareholding Pattern filed with BSE

Name of Firm: Sri Adhikari Brothers Television Network Ltd

Filing Date: August 18, 2011:

For the Quarter ended: 30 June 2011

(I)	(II)	(III)	(IV)	(V)	(VI)	(VII) = (VI)/(IV)
Category Code	**Category of Shareholder**	**Number of Shareholders**	**Total # of of Shares**	**Column (IV) as a % of Firm Shares Outstanding**	**Number of Pledged Shares**	**Pledged As a % of Total # of Shares**
(A)	Promoter and Promoter Group	7	10,991,259	44.57	9,465,000	86.11
(B)	Public	11,970	13,671,741	55.43	0	0
(C)	Custodians	0	0	0	0	0
(A)+(B)+(C)		11,977	24,663,000	100.00	9,465,000	38.38

Appendix III

Pledging Disclosure Regulations Around the World

In the U.S., the SEC first required disclosure of shares pledged by the highest-paid executive officers and the company's directors in 2006. SEC Rule 403(b) (3) currently requires proxy statement disclosure (usually included in a footnote to the beneficial ownership table) of the amount of beneficially owned shares that have been pledged by directors and named executive officers. In addition, public companies have recently felt pressure from institutional investors and proxy advisory firms to disclose the company's policies about pledging transactions. Institutional Shareholder Services, a prominent corporate governance advisory firm, advises its clients that, "significant pledging of company stock by directors and/or executives will be considered failures of risk oversight that should lead to against/withhold votes against individual directors or the board as a whole, in extraordinary circumstances."

In the U.K., the London Stock Exchange requires that directors obtain clearance from chairman or other designated director for share pledges. On 9th January 2009, the Financial Services Authority (FSA) confirmed that top management must notify companies of transactions conducted on their own account, such as pledges on shares. Further, companies must inform the market no later than end of business day following receipt of such information by company. The Alternative Investment Market (AIM) of the London Stock Exchange has similar regulations for its listed companies.

Pledges of shares, fund units, or equity interests are widely used in China (PRC). For domestic companies under the regime of the PRC Security Law, if a pledge is created over an equity interest in a domestic company, this fact needs to be only recorded on the relevant share certificate and no registration of the pledge with any governmental authority is

required. However, after the PRC Property Law came into effect on 1st October 2007, a pledge over an equity interest in a PRC domestic company will only become effective upon registration of the pledge at the competent local branch of the Administration of Industry and Commerce (AIC).

Other countries in the Pacific Basin that have pledging regulations include Hong Kong, Australia, and Singapore. The Hong Kong Stock exchange requires disclosure of pledged shares by controlling shareholders that hold at least 30 percent of a company's shares and upon loan default associated with the pledge. In Australia, the Australian Stock Exchange requires that listed entities disclose the existence of any finance arrangements that may be in place in relation to directors' shareholdings (for example, margin loans). In Singapore, the stock exchange has proposed to make it mandatory for controlling shareholders, who own at least 15 per cent of total issued shares - to disclose pledged shares.

Appendix IV

Variable Definitions

Variable Name	Definition
PLEDP	Shares pledged by promoters / Shares owned by promoters, averaged over the four quarters of the year
PROMP	Percentage ownership of all promoters, averaged over the four quarters of the year
INS_TR	Change in shares owned by promoters over the fiscal year divided by shares outstanding at the beginning of the year
ACC	(Income before extraordinary items less Cash flows from operations) / Beginning assets
JONES_DA	Discretionary accruals calculated using the Jones (1991) model
MJONES_DA	Discretionary accruals calculated using the modification to the Jones (1991) model as proposed by Dechow, Sloan, and Sweeney (1995)
SGRO	Change in sales / Beginning assets
GPPE	(Gross fixed assets + Capital work-in-progress) / Beginning assets
OCF	Cash flows from operations / Beginning assets
LAGOCF	Lagged value of OCF
CAPEX	(Purchase of fixed assets + Change in capital work-in-progress) / Beginning assets
EQISS	Cash raised by share issues / Beginning assets
BUYBACK	Cash paid to shareholders for buybacks / Beginning assets
CFBORROW	Cash raised from borrowings / Beginning assets
CFREPAY	Cash repaid to lenders / Beginning assets
ROA	Income before extraordinary items / Beginning assets
MCAP	Market capitalization at beginning of year
TA	Total assets at beginning of year
M/B	Market value of equity / Book value of equity, at beginning of year
INSTOWN	Percentage ownership by institutional owners, at beginning of year
AGE	Number of years relative to year of incorporation
LEV	Beginning borrowings / Beginning assets
CUR_RATIO	Current assets / Current liabilities, end of year
PLEDLOW	Equals one if PLEDP is greater than 0 and less then the 33rd percentile of PLEDP, zero otherwise
PLEDMED	Equals one if PLEDP is greater than the 33rd percentile of PLEDP and less than the 66th percentile of PLEDP, zero otherwise
PLEDHIGH	Equals one if PLEDP is greater than 66th percentile of PLEDP, zero otherwise
FIRST_TIME	Equals one if a firm pledged shares for the first time in our sample period 2009-2013, and zero otherwise
BEAT_DUM	Equals one if ROA > 0.0 percent and < 0.50 percent, and zero otherwise

PLEDP_IND	Shares pledged by individual promoters / Shares owned by individual promoters, averaged over the four quarters of the year
PLEDP_CORP	Shares pledged by corporate promoters / Shares owned by corporate promoters, averaged over the four quarters of the year
R&D	Research and development expense / Beginning assets
ADV	Advertising expense / Beginning assets

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Figure 1
Mean Pledged Shares Scaled by Promoter Shareholdings (March 2009 - March 2014)

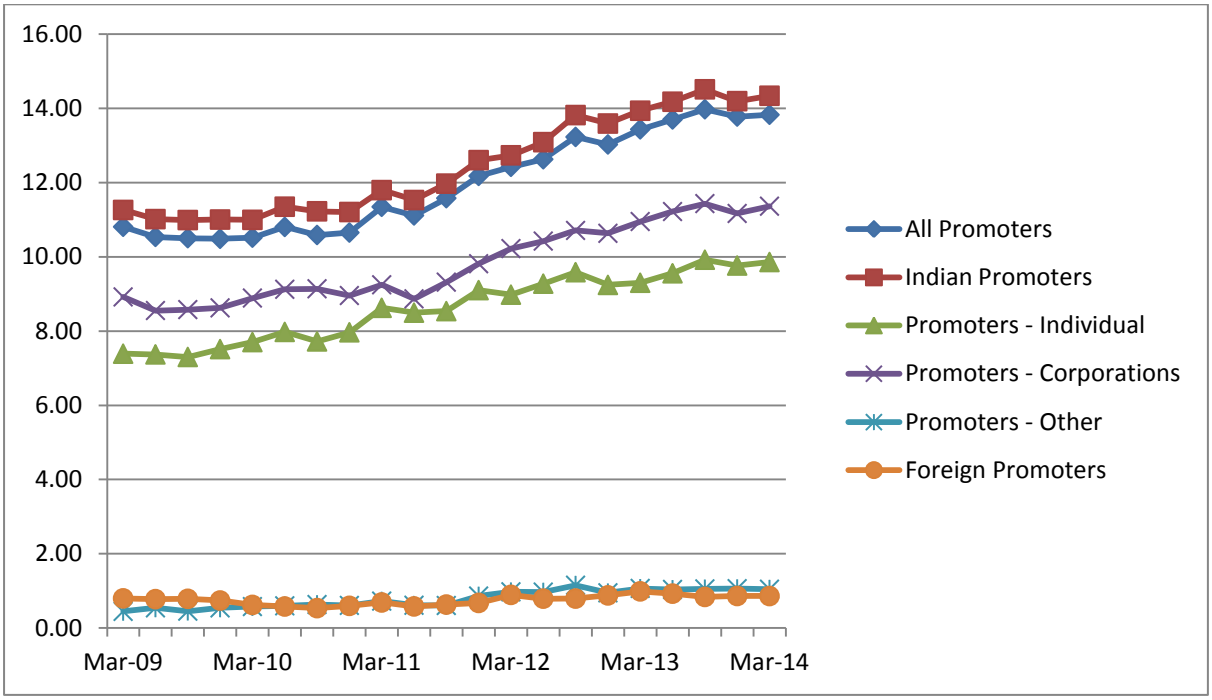

Figure 2
Loss Avoidance: Distribution of Return on Assets around the Zero Threshold

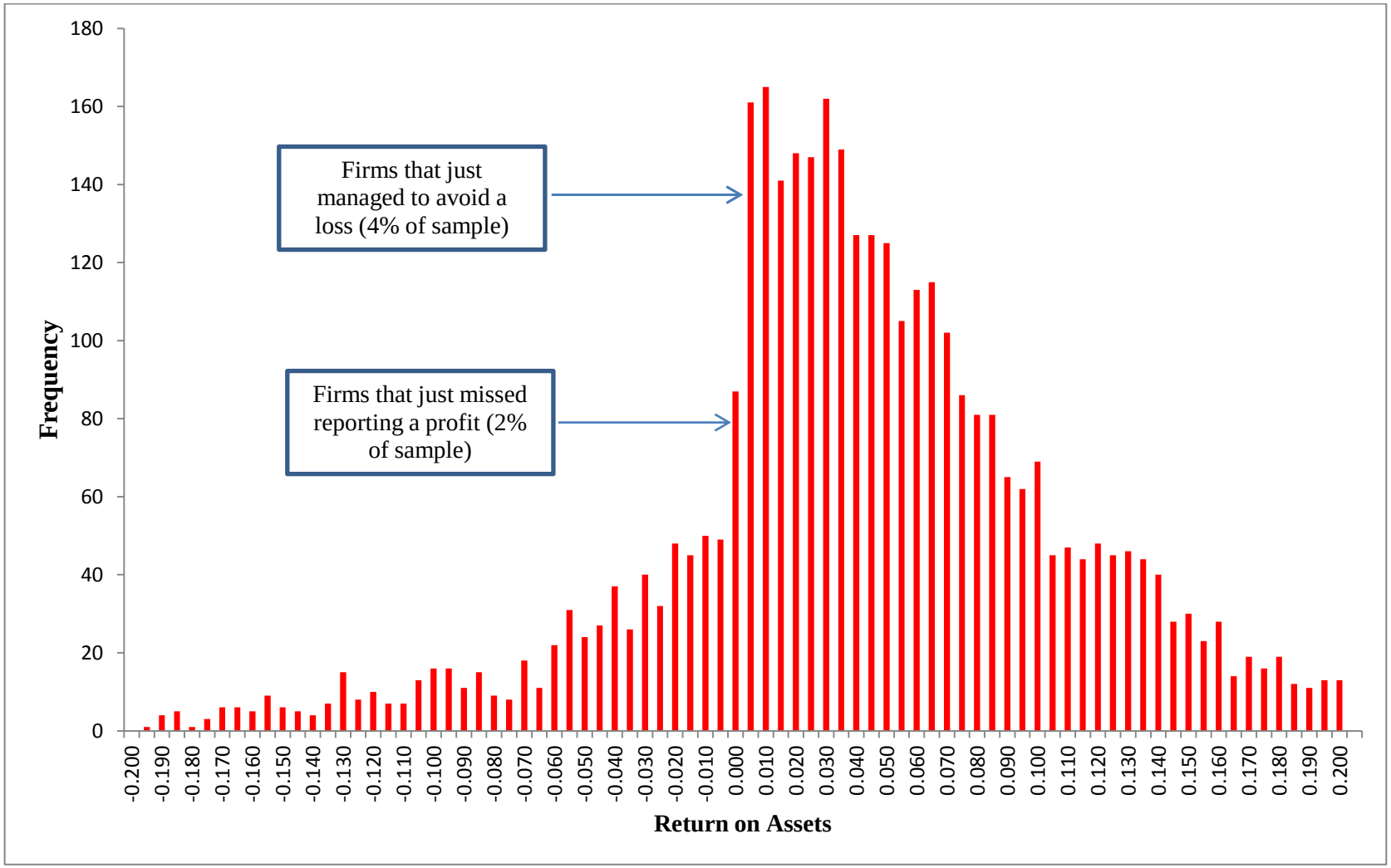

Table 1
Sample Selection

	Firms	Firm-Years
Initial sample	1,721	9,579
Less: Fiscal years not equal to March, June, September, December		13
Less: Fiscal year changes		538
Less: Missing data on ownership or pledging		460
Less: Banks, Insurance, and other financial companies		1,056
Less: Missing data for discretionary accruals		580
Less: Missing data on other financial variables		586
Usable Sample		6,346
Pledgers		2,306
Non-Pledgers		4,040

Table 2
Mean Pledged Shares Scaled by Promoter holdings in (2009, Q1 – 2014, Q1)
(Data on non-pledgers excluded)

	Average Pledged Shares / Promoter Shareholdings						Number of Observations					
	All	**Indian**	**Individual**	**Corporate**	**Other**	**Foreign**	**All**	**Indian**	**Individual**	**Corporate**	**Other**	**Foreign**
Mar 2009	32.4	34.1	37.0	43.5	38.3	52.8	485	479	290	298	17	22
Jun 2009	31.7	33.6	37.6	41.5	41.6	51.4	482	476	285	299	19	22
Sep 2009	31.4	33.3	37.3	41.1	38.9	52.0	486	480	285	304	17	22
Dec 2009	31.9	33.7	37.2	42.4	47.1	52.1	485	481	298	300	17	21
Mar 2010	31.3	33.0	37.5	41.7	45.6	46.6	502	498	307	319	19	20
Jun 2010	31.9	33.7	38.3	42.6	47.4	45.9	509	506	313	322	19	19
Sep 2010	31.7	33.8	38.2	42.8	44.1	45.7	511	508	309	327	22	18
Dec 2010	32.0	33.9	39.1	41.8	40.9	48.5	514	510	314	330	23	19
Mar 2011	33.3	35.1	41.8	42.1	47.2	46.8	531	525	322	343	24	23
Jun 2011	33.5	35.3	41.3	42.3	45.9	43.6	520	513	323	329	21	21
Sep 2011	35.5	37.3	41.9	45.0	44.0	42.0	519	511	324	329	22	24
Dec 2011	36.6	38.5	43.4	46.9	52.8	44.9	530	521	334	333	26	24
Mar 2012	37.2	38.9	43.3	47.5	57.4	54.6	530	520	329	342	27	26
Jun 2012	38.1	40.0	44.4	48.3	59.1	57.2	526	519	331	342	26	22
Sep 2012	39.2	41.4	45.4	49.7	61.4	60.4	539	533	337	344	30	21
Dec 2012	38.9	41.0	44.4	49.4	54.3	58.6	536	530	333	344	28	24
Mar 2013	40.0	42.1	45.5	50.6	57.0	56.5	537	529	327	346	30	28
Jun 2013	40.7	42.8	46.9	51.3	53.5	50.9	536	527	324	348	31	29
Sep 2013	41.8	44.0	48.3	52.2	54.2	47.7	533	525	327	349	31	28
Dec 2013	41.8	43.7	47.9	51.4	56.4	55.1	525	517	325	346	30	25
Mar 2014	42.1	44.2	48.6	52.6	53.7	54.9	523	516	323	344	31	25

Table 3
Sample Distribution by Industry (NIC)

Industry	NIC Code	Pledgers	Non-pledgers	% Pledgers
Food Products	10	140	161	46.5
Beverages	11	51	47	52.0
Textiles	13	200	236	45.9
Apparel	14	19	46	29.2
Leather	15	2	14	12.5
Wood	16	14	41	25.5
Paper	17	37	81	31.4
Coke and Refined Petroleum	19	13	93	12.3
Chemicals	20	212	400	34.6
Pharmaceuticals	21	145	218	39.9
Rubber	22	53	181	22.6
Non-metallic Minerals	23	81	200	28.8
Basic Metals	24	161	231	41.1
Fabricated Metals	25	44	80	35.5
Computers and Electronics	26	39	53	42.4
Electrical Equipment	27	98	200	32.9
Machinery and Equipment, n.e.c.	28	74	175	29.7
Auto & Transport Equipment	30	79	273	22.4
Other Manufacturing	32	36	67	35.0
Diversified Manufacturing	34	66	108	37.9
Power Generation and Distribution	35	42	59	41.6
Building Construction	41	34	37	47.9
Civil Engineering	42	134	211	38.8
Wholesale	46	123	194	38.8
Retail	47	10	2	83.3
Water Transport	50	24	31	43.6
Warehousing	52	27	75	26.5
Accommodation	55	55	40	57.9
Publishing	58	8	51	13.6
Motion Pictures	59	15	35	30.0
Telecommunications	61	25	55	31.3
Software	62	166	237	41.2
Information Services	63	51	74	40.8
Amusement and Recreation	93	28	34	45.2

Table 4
Descriptive Statistics: Pledgers versus Non-Pledgers

		Mean	Median	Std. Dev.	Q1	Q3	Min	Max	# obs.
PLEDP:	Pledgers	31.7%	23.78	28.24	6.91	51.00	0.00	99.0%	2306
	Non-Pledgers	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	2306
PROMP:	Pledgers	49.0%	49.4%	16.9%	37.8%	61.7%	5.0%	91.0%	2306
	Non-Pledgers	56.1%	56.1%	16.9%	45.5%	67.9%	5.0%	91.0%	2306
INS_TR:	Pledgers	3.1%	0.0%	10.2%	0.0%	2.2%	-18.4%	58.4%	2305
	Non-Pledgers	2.7%	0.0%	8.7%	0.0%	1.0%	-18.4%	58.4%	2301
ACC / A:	Pledgers	-3.4%	-3.5%	11.7%	-8.9%	1.8%	-47.1%	48.4%	2306
	Non-Pledgers	-2.0%	-2.4%	9.9%	-7.4%	3.3%	-45.4%	48.4%	2306
JONES_DA:	Pledgers	-0.7%	-0.7%	9.7%	-5.6%	4.2%	-35.9%	34.1%	2306
	Non-Pledgers	0.3%	0.4%	8.6%	-4.5%	5.0%	-35.9%	34.1%	2306
MJONES_DA:	Pledgers	-0.4%	-0.5%	10.1%	-5.3%	4.6%	-35.2%	38.0%	2306
	Non-Pledgers	0.6%	0.6%	8.9%	-4.3%	5.4%	-35.2%	38.0%	2306
SGRO / A:	Pledgers	10.2%	6.5%	27.9%	-1.4%	18.9%	-99.6%	157.9%	2306
	Non-Pledgers	12.2%	8.4%	25.2%	0.1%	20.5%	-99.6%	137.1%	2306
GPPE /A:	Pledgers	60.8%	58.7%	36.8%	33.3%	83.1%	0.7%	224.6%	2306

	Non-Pledgers	60.2%	59.0%	35.6%	32.6%	85.1%	0.7%	202.7%	2306
OCF/A:	Pledgers	5.8%	5.7%	11.0%	0.2%	11.5%	-45.4%	46.4%	2306
	Non-Pledgers	7.5%	7.0%	10.9%	1.6%	13.4%	-45.4%	46.4%	2306
LAGOCF /A:	Pledgers	5.6%	5.8%	12.7%	-0.1%	11.7%	-53.9%	93.9%	2304
	Non-Pledgers	7.6%	7.4%	12.1%	1.3%	13.5%	-53.9%	93.9%	2305
CAPEX /A:	Pledgers	6.6%	3.5%	8.8%	0.9%	8.7%	0.0%	71.6%	2306
	Non-Pledgers	7.6%	4.5%	9.2%	1.7%	9.6%	0.0%	68.7%	2306
EQISS / A:	Pledgers	2.1%	0.0%	8.0%	0.0%	0.2%	0.0%	112.3%	2306
	Non-Pledgers	1.8%	0.0%	8.9%	0.0%	0.0%	0.0%	112.3%	2306
BUYBACK / A:	Pledgers	0.1%	0.0%	0.5%	0.0%	0.0%	0.0%	5.4%	2306
	Non-Pledgers	0.1%	0.0%	0.6%	0.0%	0.0%	0.0%	5.4%	2306
CFBORROW / A:	Pledgers	**11.0%**	6.2%	15.0%	0.8%	14.9%	0.0%	112.4%	2306
	Non-Pledgers	9.9%	3.9%	16.6%	0.0%	12.5%	0.0%	112.4%	2306
CFREPAY / A:	Pledgers	6.4%	3.0%	10.6%	0.0%	7.8%	0.0%	112.8%	2306
	Non-Pledgers	6.1%	1.8%	13.2%	0.0%	6.4%	0.0%	112.8%	2306
ROA:	Pledgers	2.5%	2.4%	8.9%	-0.7%	6.4%	-33.2%	40.7%	2306
	Non-Pledgers	5.5%	4.5%	8.2%	1.2%	9.1%	-28.0%	40.7%	2306
MCAP[@]:	Pledgers	24596.4	2681.0	75628.7	773.8	13797.0	20.1	1004371.4	2238

	Non-Pledgers	26162.1	3498.5	78567.9	1074.2	15908.0	23.6	1004371.4	2235
TA[@]:	Pledgers	**30249.9**	8896.2	66948.5	3773.8	26748.2	169.6	798552.9	2306
	Non-Pledgers	26473.2	8732.7	62028.0	3681.6	24529.6	117.2	798552.9	2306
M/B:	Pledgers	1.8	1.0	2.6	0.5	2.0	-2.4	22.6	2238
	Non-Pledgers	1.9	1.1	2.6	0.6	2.1	-2.4	22.6	2235
INSTOWN:	Pledgers	**13.4**	**9.5**	13.2	1.9	21.2	0.0	51.66	2247
	Non-Pledgers	12.4	8.2	12.7	1.8	19.0	0.0	51.66	2250
AGE:	Pledgers	30.6	25.0	20.5	18.0	35.0	4.0	104.0	2306
	Non-Pledgers	34.6	27.0	21.4	19.0	49.0	4.0	104.0	2306
LEV:	Pledgers	37.3%	36.4%	22.5%	22.0%	50.1%	0.0%	175.1%	2304
	Non-Pledgers	26.2%	24.5%	20.6%	7.6%	40.2%	0.0%	124.3%	2305
CUR_RATIO:	Pledgers	**2.4**	1.7	2.5	1.1	2.7	0.1	20.7	2306
	Non-Pledgers	2.2	1.7	1.8	1.1	2.6	0.2	17.9	2306

Non-pledgers are matched with pledgers on fiscal year end, industry (2-digit NIC Code) and size (total assets). [@] Numbers are reported in millions of INR. Statistical significance for difference in means is based on a t-test and that of medians is based on a two-sample Wilcoxon test. Numbers shaded in red, blue, and green represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. All variables definitions are provided in Appendix IV.

Table 5
Pledging and Discretionary Accruals

Panel A: Dependent Variable = Jones Model Discretionary Accruals

	(1)		(2)		(3)	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	-0.0016	-0.17	-0.0016	-0.17	-0.0016	-0.17
PLEDP	-0.0003	-4.39	-0.0003	-4.25		
PLEDP * PLEDLOW					-0.0002	-0.37
PLEDP * PLEDMED					-0.0004	-2.86
PLEDP * PLEDHIGH					-0.0003	-3.96
PROMP	0.0006	2.95	0.0006	2.91	0.0006	2.92
INS_TR			0.0163	1.08	0.0166	1.09
OCF/A	-0.6750	-33.16	-0.6749	-33.25	-0.6748	-33.23
LAGOCF /A	0.0565	6.64	0.0562	6.74	0.0560	6.63
CAPEX /A	0.0959	6.23	0.0959	6.26	0.0955	6.24
EQISS / A	0.0397	2.56	0.0370	**2.41**	0.0370	**2.42**
BUYBACK / A	0.0130	0.10	0.0181	0.13	0.0236	0.17
CFBORROW / A	0.0242	1.53	0.0246	1.56	0.0250	1.57
CFREPAY / A	-0.0395	**-2.07**	-0.0396	**-2.09**	-0.0398	**-2.10**
MCAP	0.0000	**-1.83**	0.0000	**-1.74**	0.0000	**-1.76**
MB	0.0025	3.25	0.0025	3.25	0.0025	3.28
INSTOWN	0.0002	0.87	0.0002	0.82	0.0002	0.80
AGE	-0.0060	-0.64	-0.0064	-0.67	-0.0059	-0.61
LEV	-0.0458	**-1.74**	-0.0457	**-1.76**	-0.0454	**-1.74**
Firm Effects		Yes		Yes		Yes
Year Effects		Yes		Yes		Yes
Industry Effects		Yes		Yes		Yes
Number of Obs.		6,043		6,043		6,043
Adjusted R^2		58.4%		58.5%		58.5%

Panel B: Dependent Variable = Modified Jones Model Discretionary Accruals

	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	-0.0024	-0.26	-0.0024	-0.26	-0.0024	-0.26
PLEDP	-0.0003	-4.15	-0.0003	-4.04		
PLEDP * PLEDLOW					0.0001	0.31
PLEDP * PLEDMED					-0.0004	-2.24
PLEDP * PLEDHIGH					-0.0003	-3.67
PROMP	0.0007	3.34	0.0007	3.33	0.0007	3.34
INS_TR			0.0163	1.13	0.0166	1.15
OCF/A	-0.6976	-32.94	-0.6975	-33.02	-0.6975	-33.05
LAGOCF /A	0.0586	6.73	0.0583	6.84	0.0580	6.77
CAPEX /A	0.0974	6.10	0.0974	6.14	0.0974	6.14
EQISS / A	0.0451	2.47	0.0423	2.32	0.0423	2.33
BUYBACK / A	-0.0150	-0.11	-0.0099	-0.07	-0.0087	-0.06
CFBORROW / A	0.0340	2.16	0.0344	2.18	0.0346	2.18
CFREPAY / A	-0.0468	-2.53	-0.0469	-2.56	-0.0471	-2.55
MCAP	0.0000	-1.50	0.0000	-1.42	0.0000	-1.42
MB	0.0026	3.49	0.0026	3.51	0.0026	3.53
INSTOWN	0.0002	0.84	0.0002	0.79	0.0002	0.78
AGE	0.0032	0.32	0.0028	0.27	0.0031	0.30
LEV	-0.0404	-1.42	-0.0403	-1.44	-0.0402	-1.43
Firm Effects		Yes		Yes		Yes
Year Effects		Yes		Yes		Yes
Industry Effects		Yes		Yes		Yes
Number of Obs.		6,043		6,043		6,043
Adjusted R^2		59.1%		66.7%		59.1%

Numbers shaded in red, blue, and green represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Standard errors are clustered by firm and year. All variables definitions are provided in Appendix IV.

Table 6
Comparison of Discretionary Accruals: First-time Pledgers versus Continuing Pledgers

Panel A: Mean and Medians by type of Pledger

	Mean	Median	Obs.
First-time Pledgers:			
ACC / TA	0.26%	-1.68%	193
JONES_DA	1.68%	0.82%	193
MJONES_DA	2.39%	1.03%	193
Continuing Pledgers:			
ACC / TA	-3.86%	-3.54%	1717
JONES_DA	-1.27%	-0.85%	1717
MJONES_DA	-0.94%	-0.62%	1717
Non-Pledgers:			
ACC / TA	-2.21%	-2.30%	3234
JONES_DA	0.23%	0.35%	3234
MJONES_DA	0.56%	0.64%	3234
Withdrawn Pledgers:			
ACC / TA	-2.15%	-3.03%	52
JONES_DA	-0.98%	-0.77%	52
MJONES_DA	-0.56%	-0.38%	52

Panel B: Tests of Statistical Significance

	t-test			Wilcoxon test		
	ACC/TA	JONES_DA	MJONES_DA	ACC/TA	JONES_DA	MJONES_DA
First-time Pledgers and Continuing Pledgers	4.06	3.68	3.90	3.92	3.35	3.56
Continuing Pledgers and Non-pledgers	-5.10	-5.55	-5.40	-5.57	-5.99	-5.96

Table 7
Discretionary Accruals and Pledging: Supplementary Regressions

Panel A: Dependent Variable = Jones Model Discretionary Accruals

	(1)		(2)		(3)	
	Coef.	**t-stat**	**Coef.**	**t-stat**	**Coef.**	**t-stat**
Intercept	-0.0016	-0.17	-0.0016	-0.17	-0.0016	-0.18
PLEDP	-0.0003	-4.29	-0.0003	-4.19		
FIRST_TIME	0.0053	2.43	0.0053	2.40	0.0050	2.20
BEAT_DUM			0.0043	1.46	0.0047	1.63
BEAT_DUM*PLEDP			0.0000	0.20	0.0000	0.03
PLEDP_IND					-0.0002	-2.75
PLEDP_CORP					-0.0002	-2.24
PROMP	0.0006	2.89	0.0006	2.87	0.0006	2.88
INS_TR	0.0161	1.06	0.0161	1.07	0.0163	1.08
Control Variables		Yes		Yes		Yes
Firm Effects		Yes		Yes		Yes
Year Effects		Yes		Yes		Yes
Industry Effects		Yes		Yes		Yes
Number of Obs.		6,043		6,043		6,043
Adjusted R^2		58.5%		58.5%		58.5%

Panel B: Dependent Variable = Modified Jones Model Discretionary Accruals

	(1)		**(2)**		**(3)**	
	Coef.	**t-stat**	**Coef.**	**t-stat**	**Coef.**	**t-stat**
Intercept	-0.0024	-0.26	-0.0024	-0.26	-0.0024	-0.27
PLEDP	-0.0003	-4.07	-0.0003	-3.97		
FIRST_TIME	0.0077	4.01	0.0077	3.94	0.0075	3.97
BEAT_DUM			0.0030	0.83	0.0033	0.94
BEAT_DUM*PLEDP			0.0000	0.10	-0.0000	-0.01
PLEDP_IND					-0.0002	-2.73
PLEDP_CORP					-0.0002	-2.34
PROMP	0.0007	3.30	0.0007	3.28	0.0007	3.31
INS_TR	0.0160	1.11	0.0161	1.11	0.0163	1.14
Control Variables		Yes		Yes		Yes
Firm Effects		Yes		Yes		Yes
Year Effects		Yes		Yes		Yes
Industry Effects		Yes		Yes		Yes
Number of Obs.		6,043		6,043		6,043
Adjusted R^2		58.5%		59.1%		59.1%

Numbers shaded in red, blue, and green represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Standard errors are clustered by firm and year. All variables definitions are provided in Appendix IV.

Table 8
Real Earnings Management via R&D and Pledging

Panel A: Descriptive Statistics

		Mean	Median	Std. Dev.	Q1	Q3	Min	Max	# obs.
R&D / A	Non-Pledgers	0.97%	0.40%	1.25%	0.20%	1.10%	0.10%	6.2%	1313
	Pledgers	0.98%	0.50%	1.22%	0.20%	1.20%	0.10%	6.2%	580
ADV / A	Non-Pledgers	2.28%	0.60%	3.85%	0.20%	2.30%	0.10%	18.5%	1,481
	Pledgers	1.63%	0.40%	3.07%	0.20%	1.40%	0.10%	18.3%	791

Statistical significance for difference in means is based on a t-test and that of medians is based on a two-sample Wilcoxon test. Mean and Median numbers that are shaded in red are significant at the 1% level, in blue are significant at the 5% level, and in green are significant at the 10% level.

Panel B: Regressions

	R&D / A				ADV / A			
	(1)		**(2)**		**(3)**		**(4)**	
	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.
Intercept	0.0005	0.21	0.0006	0.25	-0.0073	-0.94	-0.0071	-0.91
PLEDP	-0.00004	-3.05			0.0000	0.78		
PLEDP_IND			-0.00005	-3.33			0.0000	0.16
PLEDP_CORP			0.0000	-0.23			0.0000	0.98
FIRST_TIME	0.0000	-0.03	0.0000	-0.03	0.0025	1.21	0.0024	1.16
BEAT_DUM	-0.0009	-1.41	-0.0007	-1.25	0.0013	1.11	0.0013	1.08
BEAT_DUM*PLEDP	0.0001	1.94	0.0001	1.47	0.0000	0.14	0.0000	-0.24
PROMP	-0.0001	-2.48	-0.0001	-2.56	0.0000	0.54	0.0000	0.48
INS_TR	0.0024	2.14	0.0023	1.97	0.0000	0.02	-0.0001	-0.03
LAGEXP	-0.2567	-1.57	-0.2572	-1.58	-0.1129	-1.28	-0.1124	-1.26

SGRO	0.0011	1.51	0.0012	1.55	0.0065	4.01	0.0065	4.01
OCF	0.0006	0.25	0.0007	0.27	0.0025	1.27	0.0025	1.26
LAGOCF	0.0008	0.52	0.0009	0.57	0.0031	0.78	0.0031	0.79
CAPEX	0.0062	2.98	0.0060	2.94	0.0104	6.38	0.0104	6.00
EQISS	0.0027	0.58	0.0027	0.59	0.0212	5.53	0.0214	5.63
BUYBACK	-0.0162	0.99	-0.0172	0.99	-0.0128	-0.33	-0.0131	-0.33
CFBORROW	0.0002	0.13	0.0003	0.17	-0.0054	-2.56	-0.0054	-2.59
CFREPAY	0.0000	0.01	-0.0001	-0.05	-0.0001	-0.01	0.0000	-0.01
MCAP	-0.0000	-0.33	0.0000	-0.23	0.0000	-1.06	0.0000	-1.06
MB	0.0002	1.26	0.0002	1.28	-0.0002	-0.53	-0.0002	-0.52
INSTOWN	0.0000	-0.77	0.0000	-0.90	0.0001	1.23	0.0001	1.28
AGE	0.0005	0.25	0.0004	0.17	0.0009	0.26	0.0008	0.23
LEV	0.0010	0.26	0.0011	0.29	-0.0142	-9.70	-0.0143	-9.60
Firm Effects		Yes		Yes		Yes		Yes
Year Effects		Yes		Yes		Yes		Yes
Industry Effects		Yes		Yes		Yes		Yes
Number of Obs.		1,363		1,363		1,567		1,567
Adjusted R^2		7.72%		7.71%		11.1%		11.1%

Numbers shaded in red, blue, and green represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Standard errors are clustered by firm and year. All variables definitions are provided in Appendix IV.