Do Firms Adjust Their Timely Loss Recognition in Response to Changes in the Banking Industry?*

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Abstract

This paper investigates the impact of changes in the banking sector on firms’ timely recognition of economic losses. In particular, we focus on the entry of foreign banks into India during the 1990s, which likely causes an exogenous increase in lender demand for informative financial statements. Analyzing variation in both the timing of the new foreign banks’ entries and in their location, we find that foreign bank entry is associated with more timely loss recognition and this increase is positively related to a firm’s subsequent debt levels. The change appears driven by a shift in firms’ incentives to supply additional information to lenders and lenders seem to value this information. The increase in timely loss recognition is also greatest among private firms, smaller firms, non-group firms, and firms more dependent on external financing. Overall, our evidence suggests that a firm’s accounting choices respond to changes in the banking industry.

Keywords: Bank Entry, Information, Timely Loss Recognition, India
JEL Classification: D82, G21, O16, M41

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**Abstract**

This paper investigates the impact of changes in the banking sector on firms’ timely recognition of economic losses. In particular, we focus on the entry of foreign banks into India during the 1990s, which likely causes an exogenous increase in lender demand for informative financial statements. Analyzing variation in both the timing of the new foreign banks’ entries and in their location, we find that foreign bank entry is associated with more timely loss recognition and this increase is positively related to a firm’s subsequent debt levels. The change appears driven by a shift in firms’ incentives to supply additional information to lenders and lenders seem to value this information. The increase in timely loss recognition is also greatest among private firms, smaller firms, non-group firms, and firms more dependent on external financing. Overall, our evidence suggests that a firm’s accounting choices respond to changes in the banking industry.

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This paper investigates whether firms attempt to make their accounting statements more informative in response to the changes in the banking industry. Such a response might arise since firms’ financial statements are used extensively by banks and other creditors in making lending decisions and monitoring borrowers. One aspect of information that is of high value to lenders is a firm’s timely loss recognition (Watts and Zimmerman, 1986; Basu, 1997; Watts, 2003a). Evidence suggests that the timeliness of loss recognition is related to both a firm’s access to credit and the cost of credit in the U.S. (Ahmed, Billings, Morton, and Harris, 2002; Zhang, 2008; Wittenberg-Moerman, 2008; and Nikolaev, 2010) and internationally (Ball, Robin, and Wu, 2003; Ball, Robin, and Sadka, 2008). If changes in the banking sector affect lenders’ demand for this information, such as the arrival of new lenders that rely more heavily on information contained in firms’ financial statements, firms may respond by changing their accounting practices.

While the evidence suggests that firms are likely to adjust their accounting policies in response to changes in banking sector, there is little direct evidence of this occurring. Empirical evidence is sparse in part because of the difficulty of isolating a change in the banking sector, which might in turn affects the costs and benefits of being informative, that is also not related to other factors that may affect reporting policies. Our paper overcomes this challenge by exploiting an exogenous increase in the benefit of being informative caused by the entry of foreign banks into India during the 1990s.

The entry of foreign banks into India is likely to increase the banking sector’s demand for informative financial statements in three unique ways. First, foreign banks may be less able to acquire soft information about local firms, leading them to place a greater emphasis on the information contained within firms’ financial statements (Stein,
This may be particularly true when foreign banks are from developed countries where financial statements are commonly used to screen and monitor borrowers (Bushman and Piotroski, 2006). Second, foreign banks tendency to ‘cream-skim’ the larger, extremely profitable firms in developing countries (Dell’Arricia and Marquez, 2004; Segupta, 2007) may also increase domestic lenders’ emphasis on informative financial statements (Detragiache, Gupta, and Tressal, 2008; Gormley, 2007). By screening borrowers more intensely, domestic lenders can more effectively compete with foreign banks. Third, domestic lenders in developing countries, which may be initially less sophisticated in their lending skills, may adopt the ‘best practices’ of foreign banks, further increasing the importance of a firm’s accounting statements in the lending process (Lensink and Hermes, 2004). Each of these changes in the banking sector is likely to increase firms’ incentives to provide more informative financial statements.

We assess whether firms adjust their timely recognition of losses in response to changes in the banking industry using a natural experiment framework. In particular, we make use of the staggered entry of foreign banks into India following the country’s 1994 commitment to the World Trade Organization (WTO). Some districts of India received a foreign bank branch as early as 1994, while others did not receive such a branch until 2001, and as of today, many districts have yet to receive a foreign bank. Matching this information to a large panel dataset of firms’ audited financial statements, we compare changes in timely loss recognition between domestic firms located geographically near the new foreign banks and domestic firms located further from the new foreign banks. The variation both in the timing of the new foreign banks’ entries and in their location within the country reduces potential confounding effects that might arise from other
country-wide changes in firms’ accounting standards. Such country-wide changes would affect all firms in India and therefore unlikely explain differential changes in accounting choices for firms located geographically near foreign banks versus those that are not.

Another advantage to analyzing changes in timely loss recognition and changes in the banking sector in India is our ability to obtain detailed firm-level data for both public and private Indian firms. By using firm-level data, we can test for a heterogeneous effect across firms as well as control for any differences in the types of firms located in areas with a new foreign bank. The data on private firms, which are potentially more sensitive to changes in local lending markets, also allows us to analyze the reporting policies for firms that are generally not represented in most studies.

To measure a firms’ timely recognition of economic losses, we follow the research design by Ball and Shivakumar (2005) and apply an accrual-cash flow non-linear regression technique. Since this measure only relies on the information in firms’ historical financial statements, we are able to calculate it for both public and private firms in India. This is particularly important since the benefit of informative financial statements is likely greater for private firms after foreign bank entry.

Using the aforementioned framework, we find evidence that firms’ accounting choices are associated with changes in the banking industry. The overall level of timely loss recognition increases for firms located in the vicinity of new foreign banks, and the timing of this increase coincides with foreign bank entry into each district. The increases in timely loss recognition are also concentrated among firms with the strongest incentives to adjust their accounting procedures so as to reduce information asymmetries and alleviate financing constraints. More specifically, we find that smaller, non-group, and
private firms, particularly private firms with greater dependence on external financing, increase their timely loss recognition the most. The findings are robust to the use of different samples, time periods, and control variables. In addition to the increase in timely loss recognition, we also find evidence of an increase in the ability of accruals to predict future cash flows. This shift is also consistent with firms’ improving the informativeness of their financial statements in response to changes in the banking sector.

The evidence also indicates that lenders value this change in accounting informativeness. Within districts that experience a foreign bank entry, we find the largest increases in timely loss recognition occur, on average, among firms that maintain or increase their level of borrowings following foreign bank entry, whereas firms that experience declines in their debt levels exhibit no average increase.

Our findings add to the growing evidence that the benefits and costs of being informative can cause shifts in accounting choices. For example, Willenborg (1999) and Leone et al. (2007) find that firms respond to changes in the costs and benefits of providing information to equity holders in event of IPO, and Minnis (2010) finds that private firms undergo voluntary audits in order to improve their access to the debt market. Our paper demonstrates that firms also adapt their accounting policies, timely loss recognition in particular, to changes in banking industry. To the authors’ knowledge, this dynamic connection between accounting informativeness and banking sector characteristics has not been documented before.

Our findings also reinforce the importance of timely loss recognition and its role in debt contracting process (Ahmed, Billings, Morton, and Harris, 2002; Zhang, 2008; Wittenberg-Moerman, 2008; Beatty, Weber, and Yu, 2008; Guay, 2008). Rather than
analyze the importance of timely loss recognition in a static credit market, however, our paper uses a natural experiment to test whether changes in banking industry are correlated to changes in firms’ accounting choices. We also explore how these changes in accounting choices vary across firms, including private firms.

Our paper also provides supporting evidence to the argument of Ball (2001) and Kothari (2001) that institutional mechanisms are important in shaping a country’s accounting choices. Previous research has explored the relationship between accounting practices and legal institutions (Ball, Kothari, and Robin, 2000), equity market development and investor rights (Leuz, Nanda, and Wysocki, 2003), tax systems (Ali and Hwang, 2000; Guenther and Young, 2000) and political connections (Chaney, Faccio, and Parsley, 2009). Our paper suggests that banking sector characteristics may also be important in shaping a country’s accounting practices over time.

Finally, this paper is related to the literature that studies the relationships between foreign bank entry, domestic bank performance, interest rates, and firms’ debt usage.¹ This paper compliments this literature by analyzing the changes in firms’ accounting practices following foreign bank entry into a market where firms seemingly face very few incentives to produce informative financial statements. Our evidence suggests that in this type of environment, firms improve the informativeness of their financial statements.

¹ Claessens, Demirguc-Kunt, and Huizinga (2001) uncover evidence that foreign bank entry is associated with lower profit margins among domestic banks, while Berger, Klapper, and Udell (2001), Haber and Musacchio (2004), and Mian (2006) provide evidence that foreign banks tend to finance only larger, more established firms. Clarke, Cull, and Martinez Peria (2006) find that entrepreneurs in countries with high levels of foreign bank ownership perceive interest rates and access to loans as smaller constraints to their operations. Detragiache, Gupta, and Tressal (2008) and Gormley (2010) find that foreign ownership is negatively related to aggregate and firm-level measures of debt-usage, while within Eastern European countries, Giannetti, and Ongena (2009a) find the share of foreign lending to be positively related to firm-level sales and overall debt usage, particularly for larger firms. Giannetti and Ongena (2009b) also find that foreign bank entry may make bank relationships more stable and enhance financial access. Berger, Klapper, Peria, and Zaidi (2008) find suggestive evidence that firms choose to have multiple bank relationships as an insurance against the ‘fragility’ of foreign bank relationships.
following the entry of lenders that increases the demand for such information. The observed increase in informativeness is also consistent with theories suggesting that financial sector competition may affect the importance of firms’ informational- opaqueness (Dell’Arricia and Marquez, 2004; Gormley, 2007; Sengupta, 2007) and supports the argument that firms’ incentive to provide informative financial statements is important (Ball, Robin, and Sadka, 2008; Ball, Robin, and Wu, 2003).

The remainder of the paper proceeds as follows. Section 1 provides a review of India’s policy change. Section 2 develops testable hypotheses. Section 3 describes the data and research design. Section 4 presents empirical results, and Section 5 concludes.

1. Description of Banking Sector Changes in India

Prior to 1991, India’s economy and financial system was heavily regulated and dominated by the public sector. Following a balance of payments crisis in 1991, however, a number of structural reforms were implemented that greatly deregulated many economic activities. In November 1991, a broad financial reform agenda was established in India by the Committee on the Financial System (CFS). One of the committee’s recommendations to meet this goal was to introduce greater competition into the banking system by allowing more foreign banks to enter India.

However, no significant action was taken by the Government of India regarding the CFS recommendation on foreign banks until April 1994 when the government agreed to allow for an expansion of foreign banks under the General Agreement on Trades in Services (GATS). In the initial GATS agreement, India committed to issue five additional branch licenses to both new and existing foreign banks each year. In a subsequent supplemental agreement in July 1995, India increased the limit to eight licenses per year,
and in February 1998, the limit was increased to 12. While there were no restrictions on where foreign banks could choose to establish new branches, the expansion of foreign banks in India was allowed by de novo branches only.²

In the years preceding the signing of the GATS agreement, very few licenses for new foreign bank branches were granted, and the presence of foreign banks in India was limited. On March 31, 1994 there were 24 foreign banks with 156 branches in India. Most of these banks, however, had begun operations before India’s first nationalization of private banks in April 1969, and only seven new branches had opened since 1990. Moreover, most of India’s 575 districts did not have a foreign bank, as roughly 75 percent of these foreign bank branches were concentrated in districts encompassing India’s three largest cities: Delhi, Mumbai, and Kolkata.

In the eight years following the acceptance of GATS, however, 17 new foreign banks and 89 new foreign bank branches were opened in India bringing the total number foreign banks to 41 with 212 branches as of March 2002.³ The expansion of foreign banks also increased their representation outside of India’s most populous cities, as the number of districts with a foreign bank increased from 18 to 26, and foreign banks’ share of total long-term loans increased as well. In March 1994, foreign banks accounted for 5 percent of all outstanding long-term loans, but with their expansion of branches, their share of long-term loans increased and averaged roughly 8 percent from 1996 to 1998, and 10 percent from 1999 to 2001. Moreover, some back of the envelope calculations

² Foreign banks were not allowed to own controlling stakes in domestic banks, and foreign banks wishing to establish new branches needed to seek Reserve Bank of India approval, as do all banks under Section 23 of the Banking Regulation Act, 1949. Requests for new branches are evaluated on the “merits of each case and taking into consideration overall financial position of the bank, quality of its management, efficacy of the internal control system, profitability, and other relevant factors”. See “Master Circular on Branch Licensing,” DBOD.No. BL.BC. 5/22.01.001/2004, Reserve Bank of India, Mumbai, pp. 4.
³ 33 foreign bank branches closed during this time period, so the net change was only 56. 17 of these closures were from ANZ Grindlays Bank Ltd. and five from Standard Chartered Bank in 1998 and 1999.
suggest foreign bank entry was sizeable in the eight districts receiving their first foreign bank. By 2003, foreign banks accounted for roughly 5.5 percent of long-term loans in these districts, and their share of loans is about 10 percent in districts that experienced entry between 1994 and 1996, suggesting foreign banks’ share of loans grows with time.

While foreign banks’ entry, as measured by captured market share, was relatively small, it had a significant impact on local credit markets and firms. Gormley (2010) finds that while average bank borrowings increased for large, profitable firms following foreign bank entry into India, the average domestic firm located in the vicinity of a new foreign bank experienced a drop in bank borrowings. These declines were larger on average among firms generally considered more informationally-opaque, such as smaller firms and firms with fewer tangible assets. The drop in credit also appears to adversely affect the performance of smaller firms with greater dependence on external financing. The experience of India is consistent with the cross-country evidence of Detragiache, Gupta, and Tressal (2008), which also finds evidence that foreign bank entry is associated with reduced bank credit among informationally-opaque firms.

The reduced use of debt for many informationally-opaque firms in India following foreign bank entry would seem to suggest that the benefit of providing informative financial statements increased. We now turn to exploring why this might occur and how firms might be expected to respond.

2. Hypotheses Development

In making lending decisions, banks face ex-ante information asymmetry and ex-post moral hazard problems. To overcome these frictions, banks can adopt stringent screening standards (Ramakrishnan and Thakor, 1984) and/or monitor borrowers
(Diamond, 1984). Each requires information about the creditworthiness of borrowers.
While some information on credit quality can be obtained from borrowers (soft
information), credit agencies, suppliers, and customers of a firm, a large share of the
information used by lenders will be contained in the firms’ financial statements.

One particular accounting metric that is informative to lenders is the timely
accounting recognition of economic losses (Watts and Zimmerman, 1986; Ahmed,
Because of lenders’ asymmetric payoff from firms’ net assets (lenders incur loss when
the net assets of borrower are below the principal but are not compensated when net
assets exceed the principal), lenders are concerned with the lower bound of a borrower’s
net asset value. Timely loss recognition ensures, however, that expected losses are
reflected in the financial statements earlier and that the borrowers’ true net asset value is
not overstated (Watts, 2003a). This lower bound is informative to the lenders in making
lending decisions and in specifying financial covenants.5 Timely loss recognition also
increases the effectiveness of ex-post monitoring because it better informs lenders about a
borrower’s ability to repay, and the decreased reported earnings help constrain dividends,
thus alleviating the ex-post moral hazard problems (Watts and Zimmerman, 1986).

Several studies find evidence consistent with timely loss recognition having a
positive effect on lending decisions. Ahmed, Billings, Morton, and Harris (2002) find
evidence that timely loss recognition plays an important role in mitigating bondholder

4 More specifically, timely accounting recognition of economic losses is also termed as asymmetric
timeliness or conditional conservatism. Ball and Shivakumar (2005, pp. 88-92) explain the role of
conditional conservatism in efficient contracting, and contrast it with unconditional conservatism which is
argued to have no positive effect on efficient contracting.
5 There is evidence that banks in India use covenants to monitor borrowers. For example, on February 11,
2001, the Financial Times reported that Indian banks “have been asked by the Reserve Bank of India to
make bill finance one of the covenants for sanction of working capital credit limits”

On the other hand, timely loss recognition can be costly for firms. Earlier recognition of losses lowers stated earnings, which may reduce outsiders’ valuation of the company, constrain dividend payment to shareholders, adversely affect managerial compensation, and potentially lower firm’s ability to obtain external credit in the short-run (Ahmed, Billings, Morton, and Harris, 2002). Firms also violate debt covenants earlier when they are timely in recognition of losses (Zhang, 2008), and such violations can be costly for firms (Roberts and Sufi, 2009). Timely loss recognition may also reduce a manager’s private benefits, particularly in countries with weak investor protections (Leuz, Nanda, and Wysocki, 2003).

Given these costs, firms face a trade-off when choosing how timely to recognize economic losses. Holding all else equal, loss recognition is expected to be timelier when the potential benefits of doing so increase, and vice versa, loss recognition should be less timely when the potential costs increase.

The entry of foreign banks into India is likely to increase the banking sector’s demand for informative financial statements in three unique ways. First, foreign banks may be less able to acquire soft information about local firms, leading them to place a
greater emphasis on the information contained within firms’ financial statements (Stein, 2002). This may be particularly true when foreign banks are from developed countries where financial statements are commonly used to screen and monitor borrowers (Bushman and Piotroski, 2006). Second, foreign banks tendency to ‘cream-skim’ the larger, extremely profitable firms in developing countries (Dell’Arricia and Marquez, 2004; Segupta, 2007) may also increase domestic lenders’ emphasis on informative financial statements (Detragiache, Gupta, and Tressal, 2008; Gormley, 2007). By screening borrowers more intensely, domestic lenders can more effectively compete with foreign banks. Third, domestic lenders in developing countries, which may be initially less sophisticated in their lending skills, may adopt the ‘best practices’ of foreign banks, further increasing the importance of a firm’s accounting statements in the lending process (Lensink and Hermes, 2004). Each of these changes in the banking sector is likely to increase firms’ incentives to provide more informative financial statements.

The potential change in lenders’ demand for information following foreign bank entry provides firms with an incentive to improve the informativeness of their financial statements. Since timely loss recognition may help accomplish this, we conjecture it will increase as firms compete for limited funds in a banking market that now contains foreign banks. Therefore, our first hypothesis is stated as follows:

**Hypothesis 1 (H1): The level of timely loss recognition will increase in districts where foreign bank entry occurs.**

A rejection of this hypothesis would indicate that foreign bank entry has no impact on timely loss recognition. This might occur if foreign bank entry does not increase the benefit of Indian firms providing more informative financial statements, or if
lenders do not value this particular change in a firm’s reporting policy.

The increased benefit of having informative financial statements following foreign bank entry is also likely to vary across firms. More informationally-opaque firms will be at a larger disadvantage if lenders place greater emphasis on financial statements when making lending decisions. Additionally, firms that are more dependent on external financing may find it more beneficial to increase informativeness if doing so can increase the odds of maintaining credit access. As a result, small and private firms, which are typically more informationally-opaque and dependent on external financing, may have the greatest incentive to adjust accounting policies following foreign bank entry. Non-group firms may also have a greater incentive to improve the informativeness of their financial statements since they are likely more dependent on external financing. Our second hypothesis is stated as follows:

HYPOTHESIS 2 (H2): The change in timely loss recognition will be more pronounced among small, private, non-group firms and firms with greater external financing dependence.

Finally, if increased timely loss recognition improves the informativeness of firms’ financial statements and reduces the risk born by lenders in assessing firms’ creditworthiness, we expect lenders to reward firms who increase their timely loss recognition by granting more credit to these firms. Therefore, our third hypothesis is stated as follows:

HYPOTHESIS 3 (H3): The change in timely loss recognition after foreign bank entry will be positively associated with firms’ access to credit.
3. Data and Research Design

3.1. Data

The data used to identify the location and opening date for each foreign bank in India is the *Directory of Bank Offices* published by the Reserve Bank of India. Providing the location, name, opening date, and closing date for every bank office in India, the data is used to construct a complete annual directory of all banks in India from 1988 to 2002.

With this data, it is possible to map out the timing and location of arrival for the new foreign banks. Table 1 shows the number of foreign banks by district and year from 1990 to 2002. In the top half of the table are the 18 districts that already had a foreign bank before 1991. These include the three districts with very large metropolitan centers: Delhi, Greater Mumbai, and Kolkata. In the bottom half are the eight districts that received their first foreign bank during the 1990s. As can be quickly seen, the overall increase in foreign bank branches largely coincides with the signing of the GATS in 1994, but the actual timing of entry across these eight districts is staggered across years. The district location of new foreign banks is mapped in Figure 1 which highlights the eight districts that receive their first foreign bank between 1991 and 2002. The eight districts are relatively dispersed across India, spanning seven of India’s 35 states.6

[Insert Table 1 here]

[Insert Figure 1 here]

The bank location data are matched up to the Prowess data set compiled by the Centre for Monitoring Indian Economy (CMIE). Prowess is a panel data set of firms

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6 Citibank and Hong Kong & Shanghai Banking (HSBC) were responsible for half of the new foreign bank branches in the eight districts. Other banks opening branches in these districts were ABN AMRO, American Express Bank Ltd., ANZ Grindlays, BNP Paribas, Crédit Lyonnais, Deutsche Bank (Asia), Société Générale, and Standard Chartered. Each had pre-existing branches elsewhere in India at the time of entry in the eight districts.
from 1988 to 2002 where both listed and unlisted publicly limited Indian and foreign firms with assets plus sales greater than 40 million Rupees (approx. $900,000) are included in the data set. The data set provides the annual financial and accounting data of each firm along with descriptive variables including the ownership, year of incorporation, and registered address. Using each firm’s address, it is possible to track their financial status at the district level and to merge this data to the district location of the new foreign banks in India. To ensure a comparable sample of control firms, we exclude firm-year observations for firms located in the districts that already have foreign banks prior to liberalization. These districts experience additional entry during the sample time period, making it difficult to use them as a control sample for the eight districts receiving their first foreign bank. In addition, firms in these districts are likely different in many ways because of prior foreign bank entry. Our final sample consists of 20,434 firm-year observations for 2,547 unique firms over the period 1988-2002.

While foreign banks only entered eight new Indian districts after liberalization, the financial data provided by Prowess indicates that a large number of Indian firms were likely affected by this entry. Within our sample, these eight districts account for 25 percent of the observed firms and 24 percent of total sales in 1992. These high numbers reflect foreign banks’ tendency to locate in heavily populated districts.

3.2. Measuring timely loss recognition

Following Ball and Shivakumar (2005), we measure timely loss recognition using

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7 CMIE compiles the financial data using the audited annual accounts that all registered companies in India must submit to the Registrar of Companies. The cutoff level of firm size in the Prowess dataset seems to be an arbitrary point chosen to limit the size of the database.

8 Comparing the summary statistics in Appendix Table 1 with those in Table 2 suggests that firms located in the areas with prior foreign bank entry are much larger in size than firms in our sample. They are also more profitable as measured by their return on assets (ROA), and have higher cash flow from operations.

9 Our findings are also robust to restricting the sample to India’s post-liberalization period of 1992-2002.
a non-linear relation between operating cash flows and accruals. The model is as follows:

\[ ACC_{it} = \beta_1 CFC_{it} + \beta_2 CFO_{it} + \beta_3 DCFO_{it} \times CFO_{it} + \epsilon_{it} \]  \hspace{1cm} (1)

The dependent variable \(ACC_{it}\) is accruals computed as \([(\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STD_{it}) - DEP_{it}]\) scaled by total assets for firm \(i\) in year \(t\), where \(\Delta CA\) is the change in current assets, \(\Delta Cash\) is the change in cash and bank balances, \(\Delta CL\) is the change in current liabilities, \(\Delta STD\) is the change in short term debt, and \(DEP\) is depreciation expense.\(^{10}\) \(CFO\) represents the operating cash flows (scaled by total assets), measured as the difference between \(ROA\) and \(ACC\), where \(ROA\) is the profit after tax charges (\(PAT\)) scaled by total assets. Accruals are subtracted from ROA to undo the accrual accounting methods used to calculate firms’ cash flows and to better reflect the true level of current operating cash flows generated by the firm. \(DCFO\) is an indicator variable equal to 1 if \(CFO\) is negative, and 0 otherwise.

Firms that engage in a timely recognition of economic gains and losses will exhibit a positive correlation between accruals, \(ACC\), and contemporaneous cash flows, \(CFO\). The positive correlation comes from the fact that cash flows generated from individual durable assets (such as plant and equipment) tend to be correlated over time (Ball and Shivakumar, 2005). For example, a piece of equipment that generates less cash today due to changes in product market conditions is also likely to experience a downward revision in its expected future cash flows. If these revisions of future cash flow expectations are incorporated into current-period accruals by a firm in a timely fashion, a positive correlation between accruals, \(ACC\), and contemporaneous cash flows, \(CFO\), will occur. In this example, a decline in expected future cash flows may be accounted for in accruals through a markdown in the value of assets or inventory.

\(^{10}\) We use this methodology to calculate accruals as detailed cash flow data is largely unavailable in India.
The more timely firms are in their recognition of expected losses, the stronger the positive correlation between accruals, \( ACC \), and operating cash flows, \( CFO \), will be when cash flows are negative. Thus, the level of timely loss recognition is increasing in the coefficient, \( \beta_3 \). This will be our primary coefficient of interest throughout the paper. A timely recognition of gains would instead be captured by a positive correlation between cash flows and accruals when current cash flows are positive. However, because standard accounting practices generally do not allow firms to account for expected future gains in cash flows until those gains are actually realized, there is little positive correlation between positive cash flows and accruals on average. Instead, the use of accruals to mitigate cash flow noise generally causes a negative relation between cash flows and accruals (i.e. \( \beta_2 < 0 \)) (Dechow, 1994; Dechow, Kothari, and Watts, 1998).\(^{11}\) This asymmetry in the correlation between accruals and cash flows is why ‘timely loss recognition' is often referred to as ‘asymmetric timeliness’.

### 3.3 Research design

To test whether foreign bank entry is correlated with timely loss recognition, we expand model (1) by introducing a dummy variable, \( Bank \), to capture foreign bank entry, and interact it with other explanatory variables in model (1). In particular, the model we estimate is specified as follows:

\[
ACC_{it} = \beta_1 CFO_{it} + \beta_2 CFO_{it} + \beta_3 DCFO_{it} \times CFO_{it} + \beta_4 Bank_{it} + \beta_5 Bank_{it} \times DCFO_{it} + \beta_6 Bank_{it} \times CFO_{it} + \beta_7 \times CFO_{it} + \delta_1 \times DCFO_{it} + \delta_2 \times CFO_{it} + \delta_3 \times DCFO_{it} \times CFO_{it} + \epsilon_{it}
\]

\(^{11}\)Firms use accrual accounting to mitigate noise in operating cash flows and to produce a better matching of expenses against revenues. For example, accrual accounting attempts to eliminate the transitory variations in cash flow by matching the cost of inventory sold, rather than current-period payments for inventory purchased, against sales revenue. This noise-reduction role of accruals will tend to create a negative correlation between accruals and cash flow from operations.
where $Bank_{dt}$ is equal to 1 if a foreign bank is present in district $d$ in year $t$, and 0 otherwise. The regression also includes firm fixed effects, $\alpha_i$, to control for time-invariant differences across firms, and year fixed effect, $\delta_t$, and year fixed effects interacted with $DCFO$, $CFO$, and $DCFO \times CFO$ to control non-secular time trends in average timely loss recognition across India. Since foreign entry occurs at the district level, standard errors are clustered at the district-level.

By interacting $Bank_{dt}$ with the main specification of Ball and Shivakumar (2005) and including year and firm fixed effects along with year interactions, this new specification will make use of variation both in the location and timing of foreign bank entry to identify the impact of foreign bank entry on timely loss recognition. The main coefficient of interest, $\beta_7$, will test the changes in timely loss recognition for firms located in a district with a new foreign bank after its entry relative to changes for firms located elsewhere in India. A positive $\beta_7$ would support Hypothesis 1 (H1) and indicate that timely loss recognition increased for firms located near a new foreign bank after entry relative to other firms located elsewhere in India. $\beta_6$ captures any change in the correlation between accruals and positive cash flows after foreign bank entry. Leuz, Nanda, and Wysocki (2003) argue that a larger negative relation between accruals and cash flows can indicate the smoothing of reported earnings that does not reflect underlying economic performance. If firms reduce such smoothing of earnings after foreign bank entry, which would reflect another type of accounting improvement, we might also expect the coefficient, $\beta_6$, to be positive. This type of improvement would also cause a positive $\beta_7$, which again would be beneficial to lenders who are likely more concerned about the use of smoothing in negative cash flow years to disguise bad
performance.

The use of variation in both the location and timing of foreign bank entry reduces potential confounding effects that might arise from country-wide changes in accounting standards or fixed differences in reporting policies across firms. Changes in average timely loss recognition over time, which might arise from other country-level reforms or changes in financial competitiveness, would be absorbed by the year dummies and their interactions with $DCFO$, $CFO$, and $DCFO \times CFO$.

This difference-in-difference estimation relies on two identification assumptions. First, it implicitly assumes that the effect of foreign bank entry is localized and realized predominately by firms headquartered in the district with a foreign bank. In general, we expect this to hold as empirical work in other countries has demonstrated the average distance between firms and their bank is usually quite small. However, even if this assumption is not fully true, this would only bias the results against finding an effect of foreign bank entry on timely loss recognition because some firms affected by foreign bank entry would be wrongly classified as control firms in the estimation.

The second identification assumption is that foreign banks did not select into districts that were already trending differently or going to trend differently in the future, with respect to firms’ recognition of economic losses, for reasons unrelated to the actual

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12 Analyzing small firms in the U.S., Petersen and Rajan (2002) finds that the average distance between a firm and its main bank was 67.8 miles in 1993, and the median distance was five miles. The Indian districts included in this sample had an average size of 2,457 square miles. While the U.S. firms sampled were on average six times smaller than the firms found in the Prowess data, it is likely the Indian firms also borrow locally as the positive relation between distance and borrowing costs are likely greater in a developing country such as India. Recent work on lending relationships and loan prices in Belgium and the U.S. also suggest that greater lending distances are associated with increased transportation and informational costs (Agarwal and Hauswald, 2007; Degryse and Ongena, 2005).

13 As a robustness check, we also examine the relation between foreign bank entry and timely loss recognition for firms located in the neighborhood of the districts with foreign bank entry. Results suggest that timely loss recognition does not change for these firms after foreign bank entry, which lends empirical support to our identification assumption.
entry. Consistent with this assumption, it is shown later that there is no evidence of
differences in timely loss recognition across Indian districts prior to foreign bank entry.
There is also little reason to expect that foreign banks’ location choices would be directly
related to expectations of future changes in the informativeness of firms’ financial
statements. We come back to elaborate on this issue later in section 4.3.1.

Another related concern, however, may be that foreign banks selected into
districts with differential trends in growth opportunities, which may itself be directly
related to timely loss recognition.\textsuperscript{14} To account for this possibility, we also include
controls for growth opportunities and other time-varying variables throughout the
empirical analyses. In particular, we include $SIZE$, $LEV$, and $SG$, where $SIZE$ is natural
log of total assets, $LEV$ is bank borrowings scaled by total assets, and $SG$ is sales growth,
which is equal to $((sales_t - sales_{t-1}) / sales_{t-1})$.\textsuperscript{15} Each of the three controls is also
interacted with $DCFO$, $CFO$, and $DCFO*CFO$. Our findings are also robust to including
district-level controls for growth. These robustness tests are discussed in Section 4.3.1.

4. Empirical Results

4.1. Descriptive statistics

Table 2 reports descriptive statistics for our sample of firms. The average total
assets of firms in our sample is 2.5 billion Rupee (approximately $60 million) and the
median is 320 million Rp (approximately $7.4 million). ROA (net income/assets) has a
mean of -0.4 percent and a median of 1.2 percent, suggesting that on average, Indian
firms incur losses. Accruals has a mean of -0.005, indicating that accruals decrease

\textsuperscript{14} Growth opportunities, leverage and size have each been linked to timely loss recognition (Roychowdhury
and Watts, 2007; LaFond and Watts, 2007).

\textsuperscript{15} Market-to-book ratio is frequently used as a factor related with timely loss recognition. Due to the
presence of unlisted public limited firms in our sample, we are unable to obtain market-to-book ratio for all
firms. Instead we use sales growth as an alternative proxy for growth opportunities.
income on average in India, and cash flows has a mean of 0.

Profitability and cash flows of firms in districts where foreign bank entry occurs are similar to the profitability and cash flows of firms in districts with no foreign bank entry. Panel B presents separately the summary statistics for firms located in the districts with foreign bank entry (N=6,259), and Panel C presents summary statistics for firms located in districts with no foreign bank entry (N=14,175). On average, firms located in districts with foreign bank entry are slightly more profitable, and have higher accruals and lower cash flows compared to firms located in districts where foreign bank entry does not occur, but the differences are small and not statistically different.

[Insert Table 2 here]

4.2. Regression results

4.2.1. Timely loss recognition prior to foreign bank entry

Before we test our hypotheses, we first investigate whether timely loss recognition is present in India prior to foreign banks’ entry beginning in 1994 and whether it varies across districts in a way that may raise concerns about our identification strategy. We do this by separately estimating equation (1), using only financial data from 1988-1993, for both districts that eventually receive a foreign bank and those that do not. We also include the time-varying controls for size, leverage, and growth along with their interactions as described earlier. The results are reported in Table 3.

Prior to foreign bank entry, there does not appear to be any evidence of timely loss recognition among Indian firms, and there is no evidence to indicate that the timely loss recognition was significantly different in districts that later experience foreign bank entry relative to districts that do not experience entry. The coefficient, $\beta_3$, is neither
significantly positive for firms located in districts that eventually experience foreign bank entry [Table 3, Column (i)] nor among firms located in districts that do not experience entry [Table 3, Column (ii)]. This finding lends support to our identification assumption that timely loss recognition in the districts with foreign bank entry is not significantly different from that in other districts prior to foreign bank entry. This finding is also consistent with the evidence from Bushman and Piotroski (2006) that less developed debt and equity markets, together with weak legal protections, contribute to a lower level of timely loss recognition. Lastly, the coefficient, $\beta_2$, is negative and statistically significant for both groups of firms, confirming the use in India of accruals to mitigate cash flow noise.

[Insert Table 3 here]

4.2.2. Timely loss recognition following foreign bank entry

Based on the first hypothesis, we predict that firms located in the foreign bank entry districts will increase timely loss recognition after foreign bank entry. The OLS estimates of equation (2) are reported in Table 4. Consistent with our hypothesis, the coefficient on the variable of interest, $\beta_7$, is positive and statistically significant at the five percent significance level. This result also indicates that firms reduce the smoothing of earnings in negative cash flow years after foreign bank entry. The increase in timely loss recognition after foreign bank entry is not only statistically significant, but is also economically significant. The incidence of foreign bank entry increases timeliness of loss recognition by about seventy-five percent from 0.129 to 0.226. The negative and insignificant coefficient, $\beta_6$, suggests that the smoothing of earnings in positive cash flow years does not change after foreign bank entry. This further suggests that foreign bank
entry did not change Indian firms’ business model, and therefore the increase in timely loss recognition can be attributable to the increased lender demand.

[Insert Table 4 here]

This increase in timely loss recognition following foreign bank entry is robust to controlling for other important factors that are known to affect timely loss recognition (e.g., Zhang, 2008; Beatty, Weber, and Yu, 2008). The estimates in Table 4 include controls for size, leverage, and growth, and their interactions with $DCFO$, $CFO$, and $DCFO*CFO$. The increase is also not driven by country-level changes in accounting practices.\(^{16}\) The year dummies interacted with $DCFO$, $CFO$, and $DCFO \times CFO$ would capture any country-wide change in reporting policies during the sample period.

One concern might be that other country-level accounting or financial reforms during the sample period may be differentially affecting the firms in the districts experiencing foreign bank entry. In this case, our estimation may be wrongly attributing the improvements in informativeness to the impact of foreign bank entry. To test for a possible pre-existing differential trend in timely loss recognition, we estimate a modified version of equation (2), where we allow the effect of foreign bank entry to vary by year in a five-year window surrounding foreign bank entry into each district. The yearly estimates of $BANK \times DCFO \times CFO$ are reported in Figure 2.

[Insert Figure 2 here]

The timing of the increase in timely loss recognition coincides with foreign bank entry. As seen in Figure 2, there is no indication of a differential trend in timely loss recognition prior to foreign bank entry; firms located in districts experiencing foreign

\(^{16}\) Accounting practices may be related to accounting standards (E.g. Joos and Lang, 1994; Barth, Clinch, and Shibano, 1999; Ashbaugh and Pincus, 2001; and Leuz, 2003), tax systems (Guenther and Young, 2000), institutional factors (Ali and Hwang, 2000; Ball, Kothari, and Robin, 2000; Leuz, Nanda, and Wysocki, 2003; Leuz, 2006), and political connections (Chaney, Faccio, and Parsley, 2009).
bank entry do not appear to be trending differently prior to foreign bank entry. But after entry, firms located in a district with foreign entry tend to increase their timely loss recognition relative to firms located in other districts. The precise timing of the shift in accounting informativeness suggests that it is in fact caused by foreign bank entry, rather than by any omitted firm characteristic or other country-level reforms. In order for other country-level reforms to drive this shift, it must be that they differentially affect firms located in districts experiencing foreign bank entry, and do so at various points in time coinciding with foreign bank entry into each different district between 1994 and 2001.

The increase in timely loss recognition is also robust to restricting the sample to only firms located in eight districts experiencing foreign bank entry. In doing this, we further exclude the possibility that differential trends between firms located in the districts with foreign bank entry and those that never experience such entry are driving our findings. These robustness tests are discussed further in Section 4.3.1.

### 4.2.3 Cross-sectional changes in timely loss recognition

Our second hypothesis predicts that certain firms – those that are informationally opaque or more dependent on external financing – are more likely to increase timely loss recognition than their counterparts when changes in the lending environment increase the demand for informative financial statements. We analyze this possibility by re-estimating equation (2) on subsamples of firms broken down by size, legal ownership, group-affiliation, and need for external financing. These estimates are reported in Tables 5-8.

Splitting the full sample into two groups based on the median of assets, we find

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17 The plotted coefficients measure the change in BANK×DCFO×CFO (from its level in the initial sample year) for affected firms relative to other firms. The confidence intervals shown have much less power than estimates from equation (2) because they compare each year separately against the reference period.
that the increase in the timely loss recognition is greater, on average, among smaller firms. This is seen in Table 5, where the coefficient on the variable of interest, $\beta_7$, is positive and statistically significant at the ten percent level for firms with assets below the median sample value [Table 5, Column (ii)] but negative and non-significant for firms with assets above the median value [Table 5, Column (i)]. This result suggests that smaller firms disproportionally increased timely loss recognition after foreign bank entry, which is consistent with hypothesis 2. In addition, the coefficient, $\beta_2$, is greater for large firms than for small firms, which is consistent with Ball and Shivakumar (2005) who argue that accruals mitigate more cash flow noise in larger firms. The coefficient, $\beta_6$, is negative but statistically not significant for both large and small firms, suggesting that the mitigating role of accruals in cash flow noise and the smoothing of reported earnings for positive cash flow years does not change across firm size after foreign bank entry.

[Insert Table 5 here]

The increase in timely loss recognition also appears larger, on average, among private firms. This is seen in Table 6, where we split between public and private firms. While we find a statistically significant increase in timely loss recognition for public firms [Column (i)], the average increase among private firms [Column (ii)] is nearly twice as large. This evidence is consistent with the argument that private firms may be more informationally-opaque or dependent on bank financing than public firms.

[Insert Table 6 here]

Consistent with the argument that non-group firms are more dependent on external financing, the increase in timely loss recognition is more pronounced among non-group firms. This is shown in Table 7 where the results are reported separately.

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18 It is also possible this finding reflects larger firms’ ability to borrow from lenders at a greater distance and that these firms are less subject to changes in the local credit market.
based on firms’ group-affiliation. The increase in timely loss recognition is only statistically significant among non-group firms [Table 7, Column (ii)], whereas the increase for group firms is much smaller and not significant [Table 7, Column (i)].

[Insert Table 7 here]

We next test whether the change in timely loss recognition varies by a firm’s external financing dependence using industry-level variation following the methodology of Rajan and Zingales (1998). Assuming that industry-level external financing needs are persistent across countries, we measure external financing dependence at the industry level for Indian firms using data from U.S. firms. We then split the sample into firms with above median external financing dependence, and those with below median dependence. The estimates are reported in Table 8.

While we do not find a significant difference between high and low external financing dependence firms in the full sample, we do find that private firms with more external dependence increase timely loss recognition more than private firms with less dependence after foreign bank entry. As seen in columns (i) and (ii), where we report the estimates using the full sample, $\beta_7$ is not statistically significant for either high or low dependence firms. When we restrict the sample to private firms, as done in columns (iii) and (iv), we find that high external dependence firms increase timely loss recognition significantly after foreign bank entry while the increase for low external financing dependence firms is only half as large and not statistically significant at conventional

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19 Since Rajan and Zingales’s external financing measure is only available for manufacturing industries, we lose about one third of our observations in these regressions. Rajan and Zingales (1998) measure industry external financing needs using international standard industries classification and data for U.S. public firms from Compustat. Specifically, they calculate the portion of capital expenditure (Item #128) that is not financed by the cash flows generated from business operations ((Item #110) + decrease in inventory (Item #3) + decrease in accounts receivable (Item #2) + increase in accounts payable (Item #70)) and scaled by capital expenditure. See Rajan and Zingales (1998) for more details on how this measure is constructed.
levels. The result is consistent with the argument that increased cost of being opaque is greater among private firms with more dependence on external financing.

[Insert Table 8 here]

Taken together, the results in Tables 5-8 suggest that certain firms – those that are informationally opaque or more dependent on external funding – are more likely to increase their timely loss recognition when foreign lender entry occurs. Overall, this evidence reinforce the importance of timely loss recognition and its potential impact on debt contracts (Ahmed, Billings, Morton, and Harris, 2002; Zhang, 2008; Wittenberg-Moerman, 2008; Beatty, Weber, and Yu, 2008; Guay, 2008). The evidence also supports the argument of Ball (2001) and Kothari (2001) that institutional mechanisms are important in shaping a country’s accounting choices. Previous research has explored the relationship between accounting practices and legal institutions (Ball, Kothari, and Robin, 2000), equity market development and investor rights (Leuz, Nanda, and Wysocki, 2003), tax systems (Ali and Hwang, 2000; Guenther and Young, 2000) and political connections (Chaney, Faccio, and Parsley, 2009). These findings suggest that banking sector characteristics may also be important in shaping a country’s accounting practices over time.

4.2.4. Timely loss recognition and access to credit

In this section, we test our third hypothesis of whether the increase in timely loss recognition is correlated with firms’ access to credit markets. An underlying assumption of the previous analyses is that lenders value timely loss recognition when making lending decisions. Absent this, it would be difficult to understand why firms’ timely loss recognition increases after foreign bank entry.
To test this underlying assumption, we analyze whether the increase in timely loss recognition is accompanied by an increase in credit access among firms in districts that experience foreign bank entry. To do this, we first re-estimate equation (2) using only the firm-year observations of firms located in the eight districts that experience foreign bank entry over the sample period. The estimates from using this more restrictive sample, which are reported in column (i) of Table 9, confirm our earlier findings. The increase of timely loss recognition after foreign entry is still positive and statistically significant at the one percent level.

[Insert Table 9 here]

To test whether the increase in timely loss recognition is associated with better access to credit for firms, we then divide the sample into firms that experience an increase in debt levels after foreign entry and those that do not. This is done based on whether a firms’ overall amount of bank borrowings increases or declines following foreign bank entry. If a firm experiences an average decline in bank borrowings after foreign bank entry, we include it in the ‘debt-reduction’ group, otherwise we include it in the ‘no debt-reduction’ group. In total there are 2,961 firm-year observations that do not experience credit declines, and 3,298 firm-year observations that do. If the increase in timely loss recognition brings economic benefits to firms by alleviating credit constraints, then we expect that the increase in timely loss recognition to be more pronounced for firms in the ‘no debt-reduction’ group than firms in the ‘debt-reduction’ group.

In fact, this is exactly what the evidence appears to indicate. There is only an increase in timely loss recognition among firms not experiencing a drop in overall credit. This is seen in Table 9, columns (ii) and (iii), where the coefficient, $\beta_7$, is 0.189 for the non-debt reduction subsample and statistically significant at the one percent level.
compared to a non-significant coefficient of only 0.002 for the debt reduction subsample. The difference in $\beta_7$ between the two groups of firms is statistically significant at the one percent level. The result suggests more timely loss recognition was associated with better access to credit markets following foreign bank entry and that lenders value timely loss recognition when making lending decisions.

4.3. Robustness tests

4.3.1 Selection bias

While there is no evidence in Table 3 and Figure 2 to indicate that the levels and trends of timely loss recognition looked different across districts in India prior to foreign bank entry, one concern with the above identification strategy is that foreign banks selectively entered districts where levels of timely loss recognition were going to trend upward in the future for reasons unrelated to foreign bank entry. For example, a selection bias might occur if foreign banks choose to locate in regions of India in anticipation of future improvements in the informativeness of firms’ financial statements. If this occurred, the observed correlation between timely loss recognition and foreign bank entry could be driven by foreign banks’ location choice rather than an increase in the benefit of providing more informative financial statements to lenders.

The observed increases in timely loss recognition, however, do not appear to be driven by foreign banks’ expectations of future accounting changes or firm-level growth opportunities. First, accounting standards are set at the national level in India, which makes a foreign bank’s choice of location based on expectations about regional changes
in accounting policies unlikely.\textsuperscript{20} It is also unclear why national changes in accounting regulation would affect firms heterogeneously and do so at different points in time that happens to coincide with foreign bank entry into each of the districts. Second, all our estimates include controls for firm-level sales growth, which may be related to accounting changes (Roychowdhury and Watts, 2007; LaFond and Watts, 2007). Our results are also robust to including district-level controls for growth, consisting of either $\text{Ln(number of firms)}$ or $\text{Ln(total number of banks)}$ in a district.

Lastly, our earlier analysis in Table 9 suggests that selection bias is not driving our results. In those estimates, the sample is restricted to only firms located in the eight districts that experience foreign bank entry during the sample time period. In doing this, we further exclude the possibility that differential trends between firms located in the districts with foreign bank entry and those that never experience such entry are driving our earlier findings. As note earlier, foreign bank entry is still positively associated with an increase in timely loss recognition in this restricted sample [Table 9, column (i)].

\textbf{4.3.2 Alternative measure of informativeness}

Throughout the paper we use timely loss recognition to measure the informativeness of borrowers’ financial statements since this form of conservative financial reporting is argued to improve debt contracting efficiency. In this section, we apply an alternative measure of informativeness that may be of interest to lenders, the positive correlation between current net income, $NI_t$, and future operating cash flows, $CFO_{t+1}$. Minnis (2010) argues that an increasing positive correlation between $NI_t$ and $CFO_{t+1}$ reflects an improved ability of the financial statement data to predict future cash

\footnote{\textsuperscript{20} In addition to the financial reforms discussed earlier, there were some country-level changes in accounting standards in India during the sample time period. Details of these miscellaneous changes are provided on the website of The Institute of Chartered Accountants of India, \url{www.icai.org}.}
flows, which is particularly relevant to lenders who use current financial statements to assess borrowers’ ability of paying back debt in the future. In support of this argument, Minnis (2010) finds a stronger positive correlation for firms with audited financial reports, which tend to borrow at a lower cost compared to firms with unaudited financial reports.

The results based on using this alternative measure of informativeness corroborate our earlier findings. These findings are presented in Table 10. In column (i), the positive and significant coefficient on $BANK*NI$ indicates that the ability of net income to positively predict future cash flows increases significantly after foreign bank entry, which is consistent with improved informativeness. In column (ii), net income, $NI$, is broken down into cash flows, $CFO$, and accruals, $ACC$. Minnis (2010) argues that the coefficient on cash flows gauges the persistence of underlying business fundamentals while the coefficient on accruals captures borrowers’ discretion in improving informativeness. As shown in column (ii), both of their interactions with $BANK$ are positive and statistically significant at the one percent confidence level. This suggests that both business fundamentals and managerial discretion in financial reporting have improved after foreign bank entry.

[Insert Table 10 here]

**4.3.3 Further discussion**

It is worth emphasizing that our findings may not be applicable to foreign bank entry into developed countries. As discussed earlier, the weak accounting standards and legal protections in India may contribute to the increase in timely loss recognition for firms in India. To the extent that this particular channel is driving our findings, we may not expect to find similar results when foreign bank entry occurs in more developed
countries, like the U.S. However, if our findings are instead being driven by other channels, such as the arrival of a relatively less informed lender that needs to rely more heavily on information contained within financial statements, our findings would still be applicable to other scenarios in developed countries, such as the entry of new banks into markets dominated by incumbent banks that may be more informed about local firms.

VI. Conclusion

While ample theory and evidence suggest that firms should adjust their accounting policies in response to changes in banking sector that affect the costs and benefits of being informative, there is little direct evidence of this occurring. Empirical evidence is sparse in part because of the difficulty of isolating a change in the benefits of being informative that is not also related to other factors that may affect reporting policies. Our paper overcomes this challenge by exploiting an exogenous increase in the benefit of being informative caused by the entry of foreign banks into India during the 1990s. Using this natural experiment framework, we assess whether firms adjust their timely recognition of losses in response to changes in the banking industry.

Overall, we find evidence that firms attempt to improve the informativeness of their financial statements following changes in the lending environment that increase the benefits of being more transparent to lenders. In particular, we find that the average level of timely loss recognition increases for firms located in the vicinity of new foreign banks following their entry into India. The increases in timely loss recognition are also concentrated among firms that may have a stronger incentive to alleviate financing constraints by reducing information asymmetries and agency costs of debt. Specifically, we find that smaller, non-group, and private firms appear to respond to changes in the
lending environment the most. Private firms with greater dependence on external financing also appear to respond more than the average firm, and lenders seem to value these changes. Specifically, firms that improve the most were, on average, more likely to experience an increase in their debt level after foreign bank entry.

Our evidence suggests the financial market reforms, banking industry changes in particular, may be another channel through which countries may influence firms’ financial reporting choices. Contrary to changes in regulations regarding disclosure and auditing rules, which directly affect firms’ accounting policies, our evidence suggests that banking sector characteristics may indirectly affect financial reporting choices by improving firms’ incentive to produce more informative financial statements.
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Figure 1 – Indian Districts with First Foreign Bank Entry between 1991-2001
Figure 2 -- Effect of foreign bank entry on timely loss recognition by year

This figure reports the point estimates for BANK*DCFO*CFO from a firm-level, fixed effects OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions. The specification is the same as that reported in Table 4 except that the effect of foreign bank entry, i.e. BANK*DCFO*CFO, is allowed to vary by year. The model is fully saturated and point estimates are reported for five years before and after foreign bank entry. Ninety-five percent confidence intervals, adjusted for clustering at the district level, are also plotted.
### Table 1
Number of Foreign Bank Branches in India by District and Year

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<tr>
<td><strong>Districts Receiving First Foreign Bank</strong></td>
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<td>Rajasthan</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Ludhiana</td>
<td>Punjab</td>
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<td>1</td>
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</tr>
<tr>
<td><strong>Total Foreign Bank Branches</strong></td>
<td></td>
<td>149</td>
<td>151</td>
<td>151</td>
<td>152</td>
<td>156</td>
<td>167</td>
<td>174</td>
<td>187</td>
<td>198</td>
<td>196</td>
<td>198</td>
<td>198</td>
<td>209</td>
</tr>
</tbody>
</table>

**Notes:** Number of foreign bank branches calculated using the *Directory of Bank Offices*. Bank numbers represent total branches as of March 31 each year.
This table provides summary statistics for the samples used in the study. Data is obtained from Prowess data set compiled by the Center for Monitoring Indian Economy (CMIE). ACC is accruals computed as \( ((ΔCA-ΔCash)-(ΔCL-ΔSTD)-DEP) \) scaled by total assets, where \( ΔCA \) is the change in non-cash current assets, \( ΔCash \) is the change in cash and bank balance, \( ΔCL \) is the change in current liabilities, \( ΔSTD \) is the change in short term debt, and \( DEP \) is depreciation expense. CFO is operating cash flows (scaled by total assets), measured as the difference between ROA and ACC, where ROA is the profit after tax charges (PAT) scaled by total assets. Debt is measured using total borrowings from banks.

### Panel A: Full Sample (N=20,434)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>-0.004</td>
<td>0.104</td>
<td>-0.013</td>
<td>0.012</td>
<td>0.041</td>
</tr>
<tr>
<td>ACC/Assets</td>
<td>-0.005</td>
<td>0.198</td>
<td>-0.074</td>
<td>0.000</td>
<td>0.059</td>
</tr>
<tr>
<td>CFO/Assets</td>
<td>0.000</td>
<td>0.186</td>
<td>-0.053</td>
<td>0.000</td>
<td>0.064</td>
</tr>
<tr>
<td>Debt/Assets</td>
<td>0.167</td>
<td>0.330</td>
<td>0.039</td>
<td>0.127</td>
<td>0.225</td>
</tr>
</tbody>
</table>

### Panel B: Districts where foreign bank entry occurs (N=6,259)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.002</td>
<td>0.097</td>
<td>-0.005</td>
<td>0.013</td>
<td>0.045</td>
</tr>
<tr>
<td>ACC/Assets</td>
<td>0.001</td>
<td>0.204</td>
<td>-0.066</td>
<td>0.000</td>
<td>0.064</td>
</tr>
<tr>
<td>CFO/Assets</td>
<td>-0.002</td>
<td>0.195</td>
<td>-0.053</td>
<td>0.000</td>
<td>0.065</td>
</tr>
<tr>
<td>Total Assets (10 mn. Rp)</td>
<td>231.437</td>
<td>1583.649</td>
<td>9.665</td>
<td>28.880</td>
<td>100.620</td>
</tr>
<tr>
<td>Debt/Assets</td>
<td>0.133</td>
<td>0.150</td>
<td>0.015</td>
<td>0.101</td>
<td>0.191</td>
</tr>
</tbody>
</table>

### Panel C: Districts with no foreign bank entry (N=14,175)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>-0.007</td>
<td>0.107</td>
<td>-0.017</td>
<td>0.012</td>
<td>0.040</td>
</tr>
<tr>
<td>ACC/Assets</td>
<td>-0.008</td>
<td>0.195</td>
<td>-0.077</td>
<td>0.000</td>
<td>0.056</td>
</tr>
<tr>
<td>CFO/Assets</td>
<td>0.000</td>
<td>0.182</td>
<td>-0.053</td>
<td>0.000</td>
<td>0.064</td>
</tr>
<tr>
<td>Total Assets (10 mn. Rp)</td>
<td>258.437</td>
<td>1123.286</td>
<td>12.242</td>
<td>33.101</td>
<td>111.387</td>
</tr>
<tr>
<td>Debt/Assets</td>
<td>0.182</td>
<td>0.383</td>
<td>0.050</td>
<td>0.138</td>
<td>0.238</td>
</tr>
</tbody>
</table>
Table 3  
Timely loss recognition prior to foreign bank entry

This table shows OLS estimate of accruals onto operating cash flows (CFO), an indicator for whether operating cash flows are negative (DCFO), and the interaction of these two variables (DCFO*CFO) for the years 1988-1993. Firm and year fixed effects are included along with time-varying controls for size, leverage, and sales growth interacted with each of these variables. Accruals are computed as \(\left(\Delta CA_t - \Delta Cash_t \right) - \left(\Delta CL_t - \Delta STD_t \right) - DEP_t\) scaled by total assets, where \(\Delta CA\) is the change in non-cash current assets, \(\Delta Cash\) is the change in cash and bank balance, \(\Delta CL\) is the change in current liabilities, \(\Delta STD\) is the change in short term debt, and \(DEP\) is depreciation expense. \(CFO\) is operating cash flows (scaled by total assets), measured as the difference between ROA and ACC, where ROA is the profit after tax charges (PAT) scaled by total assets. Standard errors are clustered at the district level.

**Dependent Variable = Accruals (ACC)**

<table>
<thead>
<tr>
<th></th>
<th>Bank Entry District</th>
<th>Non-Bank Entry District</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff</td>
<td>t-stat</td>
</tr>
<tr>
<td>DCFO(_t)</td>
<td>0.005</td>
<td>0.27</td>
</tr>
<tr>
<td>CFO(_t)</td>
<td>-1.001</td>
<td>-26.34</td>
</tr>
<tr>
<td>DCFO(_t) * CFO(_t)</td>
<td>-0.042</td>
<td>-0.83</td>
</tr>
<tr>
<td>Firm fixed effects</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Additional controls</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Adj-R(^2) (%)</td>
<td>92.92</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>1036</td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Foreign bank entry and timely loss recognition

This table shows a firm-level, fixed effects OLS estimate of accruals onto operating cash flows as done in Table 3, but also includes a control for whether a foreign bank is present in the district, BANK, and the interaction of this variable with operating cash flows (CFO), an indicator for negative operating cash flows (DCFO), and the interaction CFO*DCFO. Year fixed effects along with their interactions with CFO, DCFO, and CFO*DCFO are included. Time-varying controls for size, leverage, and sales growth along with their interaction with CFO, DCFO, and CFO*DCFO are also included. Standard errors are clustered at the district level.

**Dependent Variable = Accruals (ACC)**

<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.015</td>
<td>-0.93</td>
</tr>
<tr>
<td>CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.800</td>
<td>-7.25</td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.129</td>
<td>0.76</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.004</td>
<td>0.56</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.013</td>
<td>1.95</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.041</td>
<td>-1.19</td>
</tr>
<tr>
<td><strong>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</strong></td>
<td><strong>0.097</strong></td>
<td><strong>2.12</strong></td>
</tr>
</tbody>
</table>

Firm fixed effects | X
Year fixed effects | X
Additional controls | X
Adj-R² (%) | 79.6
N | 20434
Table 5
Firm size, foreign bank entry, and timely loss recognition

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4, but also divides the sample between small and large firms. The estimates for firms with above median assets are reported in column (i), and estimates for firms with below median assets are reported in column (ii). Standard errors are clustered at the district level.

**Dependent Variable = Accruals (ACC)**

<table>
<thead>
<tr>
<th></th>
<th>Large Firms [Assets &gt; median]</th>
<th>Small Firms [Assets &lt; median]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff</td>
<td>t-stat</td>
</tr>
<tr>
<td>DCFO_t</td>
<td>0.014</td>
<td>0.68</td>
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<tr>
<td>CFO_t</td>
<td>-0.843</td>
<td>-10.94</td>
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<tr>
<td>DCFO_t * CFO_t</td>
<td>0.078</td>
<td>0.48</td>
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<tr>
<td>BANK_t</td>
<td>0.012</td>
<td>1.57</td>
</tr>
<tr>
<td>BANK_t * DCFO_t</td>
<td>0.003</td>
<td>0.50</td>
</tr>
<tr>
<td>BANK_t * CFO_t</td>
<td>0.000</td>
<td>-0.01</td>
</tr>
<tr>
<td>BANK_t * DCFO_t * CFO_t</td>
<td>-0.045</td>
<td>-0.70</td>
</tr>
</tbody>
</table>

Firm fixed effects | X | X |
Year fixed effects | X | X |
Additional controls | X | X |
Adj-R² (%)          | 84.1 | 78.4 |
N                   | 10217 | 10217 |
Table 6
Ownership, foreign bank entry, and timely loss recognition

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4, but also divides the sample between public and private firms. The estimates for public firms are reported in column (i), and estimates for private firms are reported in column (ii). Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

<table>
<thead>
<tr>
<th></th>
<th>Public Firms</th>
<th>Private Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>t-stat</td>
</tr>
<tr>
<td></td>
<td>(i)</td>
<td>(ii)</td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.003</td>
<td>-0.14</td>
</tr>
<tr>
<td>CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.941</td>
<td>-10.86</td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.356</td>
<td>1.51</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.007</td>
<td>0.79</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.010</td>
<td>1.03</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.074</td>
<td>-1.16</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.139</td>
<td>1.24</td>
</tr>
</tbody>
</table>

Firm fixed effects  X  X
Year fixed effects X  X
Additional controls X  X
Adj-R² (%)          76.9 75.5
N                  9036 7066
Table 7  
Group firm, foreign bank entry, and timely loss recognition

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4, but also divides the sample between public and private firms. The estimates for group-affiliated firms are reported in column (i), and estimates for non-group firms are reported in column (ii). Standard errors are clustered at the district level.

<table>
<thead>
<tr>
<th>Dependent Variable = Accruals (ACC)</th>
<th>Group Firms</th>
<th>Non-group Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>t-stat</td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.023</td>
<td>-1.46</td>
</tr>
<tr>
<td>CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.894</td>
<td>-10.31</td>
</tr>
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<td>DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.037</td>
<td>-0.27</td>
</tr>
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<td>BANK&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.014</td>
<td>1.82</td>
</tr>
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<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.003</td>
<td>0.30</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.086</td>
<td>-1.24</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.067</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Firm fixed effects X         X
Year fixed effects X         X
Additional controls X         X
Adj-R<sup>2</sup> (%) 81.7     79.3
N                     8062   12372
### Table 8

**External financing dependence, foreign bank entry, and timely loss recognition**

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4, but also divides the sample based on their level of external financing needs. Following Rajan and Zingales (1998), we measure external financing dependence at the industry level for Indian firms using data from U.S. firms. If a firm belongs to an industry that is above median in external financing dependence among all the industries in the sample, we classify it as in high external dependence group, otherwise as in low external dependence group. The estimates for the full sample of firms are reported in columns (i) and (ii), and estimates for private firms are reported in columns (iii) and (iv). Standard errors are clustered at the district level.

**Dependent Variable = Accruals (ACC)**

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>Private Firms Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Dependence</td>
<td>Low Dependence</td>
</tr>
<tr>
<td></td>
<td>Coeff t-stat</td>
<td>Coeff t-stat</td>
</tr>
<tr>
<td></td>
<td>(i)</td>
<td>(ii)</td>
</tr>
<tr>
<td></td>
<td>(iv)</td>
<td></td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.064 -2.77</td>
<td>0.064 0.81</td>
</tr>
<tr>
<td>CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.995 -6.28</td>
<td>-0.475 -0.81</td>
</tr>
<tr>
<td>DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.301 1.59</td>
<td>-0.432 -0.79</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.012 1.15</td>
<td>0.039 1.77</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * DCFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.004 -0.30</td>
<td>0.022 0.85</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.025 -0.76</td>
<td>-0.248 -1.67</td>
</tr>
<tr>
<td>BANK&lt;sub&gt;t&lt;/sub&gt; *DCFO&lt;sub&gt;t&lt;/sub&gt; * CFO&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.072 0.87</td>
<td>0.533 3.01</td>
</tr>
<tr>
<td></td>
<td><strong>0.125 1.30</strong></td>
<td><strong>0.533 3.01</strong></td>
</tr>
</tbody>
</table>

- Firm fixed effects: X
- Year fixed effects: X
- Additional controls: X
- Adj-R<sup>2</sup> (%): 82.8, 77.8, 81.4, 79.4
- N: 6640, 6759, 1863, 2410
Table 9
Credit access and timely loss recognition after foreign bank entry

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4, but instead restricts the sample to only include observations from districts that experience foreign bank entry during the sample time period. In column (i), estimates for the full sample of firms are presented. Columns (ii) and (iii) divide the sample between firms that experience a decline in total bank loans during the sample period and those without a decline. The estimates for firms that experience a drop in bank loans are reported in column (ii), and estimates for all other firms are reported in column (iii). Standard errors are clustered at the district level.

**Dependent Variable = Accruals (ACC)**

<table>
<thead>
<tr>
<th></th>
<th>Only Firms in District with Foreign Entry</th>
<th>Firms with Debt Reduction</th>
<th>Firms with no Debt Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>t-stat</td>
<td>Coef</td>
</tr>
<tr>
<td>DCFO(t)</td>
<td>-0.027</td>
<td>-2.09</td>
<td>-0.027</td>
</tr>
<tr>
<td>CFO(t)</td>
<td>-1.024</td>
<td>-18.97</td>
<td>-1.079</td>
</tr>
<tr>
<td>DCFO(t) * CFO(t)</td>
<td>0.266</td>
<td>1.22</td>
<td>0.310</td>
</tr>
<tr>
<td>BANK(t)</td>
<td>0.000</td>
<td>-0.02</td>
<td>0.001</td>
</tr>
<tr>
<td>BANK(t) * DCFO(t)</td>
<td>0.021</td>
<td>2.90</td>
<td>0.015</td>
</tr>
<tr>
<td>BANK(t) * CFO(t)</td>
<td>-0.008</td>
<td>-0.57</td>
<td>0.002</td>
</tr>
<tr>
<td>BANK(t) * DCFO(t) * CFO(t)</td>
<td>0.084</td>
<td>2.60</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Firm fixed effects: X
Year fixed effects: X
Additional controls: X
Adj-R\(^2\) (%): 85.2
N: 6259
Table 10
Foreign bank entry and future cash flow predictability
This table shows the OLS estimates of operating cash flows in year t+1 ($CFO_{t+1}$) onto net income ($NI_t$), the foreign bank indicator ($BANK_t$) and its interaction with net income, firm and year fixed effects, and additional time-varying controls and year interactions as done in Table 4. The base estimates are reported in column (i), and estimates where net income is broken down by operating cash flows ($CFO_t$) and accruals ($ACC_t$) are reported in column (ii). Standard errors are clustered at the district level.

**Dependent Variable = Cash Flows from Operations in Year t+1 ($CFO_{t+1}$)**

<table>
<thead>
<tr>
<th></th>
<th>Coeff (i)</th>
<th>t-stat (i)</th>
<th>Coeff (ii)</th>
<th>t-stat (ii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$NI_t$</td>
<td>0.095</td>
<td>1.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$BANK_t$</td>
<td>0.006</td>
<td>0.68</td>
<td>0.007</td>
<td>0.70</td>
</tr>
<tr>
<td>$BANK_t * NI_t$</td>
<td>0.141</td>
<td>2.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$CFO_t$</td>
<td></td>
<td></td>
<td>-0.331</td>
<td>-0.52</td>
</tr>
<tr>
<td>$ACC_t$</td>
<td></td>
<td></td>
<td>0.492</td>
<td>1.41</td>
</tr>
<tr>
<td>$BANK_t * CFO_t$</td>
<td></td>
<td></td>
<td>0.196</td>
<td>3.02</td>
</tr>
<tr>
<td>$BANK_t * ACC_t$</td>
<td></td>
<td></td>
<td>0.205</td>
<td>3.49</td>
</tr>
</tbody>
</table>

Firm fixed effects | X | X |
Year fixed effects | X | X |
Additional controls | X | X |
Adj-$R^2$ (%) | 20.15 | 25.84 |
N | 17,887 | 17,887 |


Appendix Table 1
Summary Statistics for Firms Located in Districts with Previous Foreign Bank Entry

This table provides summary statistics for the observations dropped from the analysis, which are all firms located in districts that already had a foreign bank present prior to 1991. Data is obtained from Prowess data set compiled by the Center for Monitoring Indian Economy (CMIE). ACC is accruals computed as [(ΔCA–ΔCash)–(ΔCL–ΔSTD)–DEP] scaled by total assets, where ΔCA is the change in non-cash current assets, ΔCash is the change in cash and bank balance, ΔCL is the change in current liabilities, ΔSTD is the change in short term debt, and DEP is depreciation expense. CFO is operating cash flows (scaled by total assets), measured as the difference between ROA and ACC, where ROA is the profit after tax charges (PBT) scaled by total assets. Debt is measured using total borrowings from banks.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.004</td>
<td>0.113</td>
<td>-0.003</td>
<td>0.016</td>
<td>0.047</td>
</tr>
<tr>
<td>ACC/Assets</td>
<td>-0.005</td>
<td>0.212</td>
<td>-0.071</td>
<td>0.000</td>
<td>0.060</td>
</tr>
<tr>
<td>CFO/Assets</td>
<td>0.006</td>
<td>0.200</td>
<td>-0.049</td>
<td>0.000</td>
<td>0.075</td>
</tr>
<tr>
<td>Total Assets (10 mn. Rp)</td>
<td>553.918</td>
<td>4929.810</td>
<td>10.397</td>
<td>30.852</td>
<td>110.520</td>
</tr>
<tr>
<td>Debt/Assets</td>
<td>0.157</td>
<td>0.762</td>
<td>0.005</td>
<td>0.103</td>
<td>0.207</td>
</tr>
</tbody>
</table>