Lender Moral Hazard in State-owned Banks: Evidence from an Emerging Economy

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Abstract

We examine the credit risk-choices of the public sector banks (PSBs) in India with a novel dataset that is able to trace the borrowers to their banks. We determine the likelihood of the ownership type of the lender bank associated with every firm, using a lender type prediction model with a set of observable risk proxies such as the ex-ante credit ratings. The analysis indicates that the PSBs are more likely to lend to observably risky firms compared to the private banks (PBs). The observed likelihood of lending to riskier firms is significantly higher among the smaller PSBs. The set of firms that majorly contribute to the higher credit-risk choice of the PSBs include the riskier service-sector firms, firms that borrow by pledging promoter shares, and firms that are likely to be impacted by the change of political regime.

Keywords: *banking*, *moral hazard*, *credit risk*, *credit rating*, *state-owned banks*
JEL Codes: G21;G28;G32;F33;D82

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1 Introduction

It is widely documented that the state-owned banks make inefficient risk-choices compared to their private sector counterparts (for instance, La Porta et al., 2002; Shen and Lin, 2012). The inefficient risk choices made by state-owned banks can be founded in explanations offered in the political theory of firms (Shleifer and Vishny, 1997), misgovernance theory of firms (Banerjee, 1997) and the market discipline theory of firms under implicit guarantees (Flannery and Nikolova, 2004). As per the political theory of Shleifer and Vishny (1997), bureaucrats who represent the state, seek private benefits by directing the bank credit towards riskier or politically important yet inefficient projects. In the misgovernance theory, even the government intends to address market failures, agents might create red tape and engage in corruption due to their low powered incentives (Banerjee, 1997). According to the market discipline view, the expected disciplining of the market is weakened by the implicit guarantees on bank liabilities by the supervisory system (Flannery and Nikolova, 2004). The implicit and explicit guarantees provided by the government are also known to create moral hazard (Kornai, 1979; Demirgüç-Kunt and Huizinga, 2004; Dewatripont and Tirole, 1993; Boot and Greenbaum, 1993; Freixas and Rochet, 1997). Further, the inefficient risk choices in state-owned banks might also be due to the lack of incentives to innovate (Shleifer, 1998), as the lack of innovation such as the rate of technology adoption can affect the organizational capability in risk assessment.

The inefficient risk choices made by the banks, attributable to state ownership, has been corroborated by many empirical studies, which compare the state-owned banks with private banks. Greater government ownership has been associated with lower bank stability, efficiency (Barth et al., 2004; Cornett et al., 2010) and higher risk-taking (Brandao-Marques et al., 2018). Many research paper have found evidence in support of the political interference view of state-owned banks (Shen and Lin, 2012; Dinç, 2005; Sapienza, 2004; Khwaja and Mian, 2005). Shen and Lin (2012) finds that political interference adversely affects the performance of government owned banks across countries. In the emerging economies, Dinç (2005) found abnormal loan growth in state-owned banks during the election years. Sapienza (2004) document that the state-owned banks in Italy offered favourable loan terms to firms with higher political patronage. Similarly, Khwaja and Mian (2005) found that the state-owned banks in Pakistan preferred firms with higher political connectedness.

Taking the political view of the state ownership of banks, we examine the extent of the presence of moral hazard in the lending decisions of the public sector banks (henceforth PSBs) in India using a firm-level data. We also isolate the factors, including the borrower characteristics, which are likely to impact the lender-borrower relationship of the PSBs as distinct from the private sector banks (henceforth PBs).

The Indian banking system offers an ideal context to test whether the PSBs, by their ownership and governance characteristics, take excessive risk in their lending decisions as compared to the PBs. India ranks the highest in the proportion of bank assets that have at least 50% government ownership.[1] But it also ranks in the bottom quartile of the transparency, accountability and corruption in the public sector index.[2] The financial press has been reporting instances of mismanagement in PSBs at an alarming frequency in the last few years.[3] As of 2017, while the PSBs account for about 70% of all banking assets in India, their gross non performing assets (NPA) accounts for 90% of all the NPAs.[4] The PSBs also have lower return on assets and lower capital adequacy ratio (Acharya

[1] World Bank Bank Regulation and Supervision Survey 2012.

[2] As per the Country Policy and Institutional Assessment of the World Bank index data of 2013. https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment

[3] Business Standard:http://mybs.in/2TEfuom
Financial Times:https://www.ft.com/content/b62802e2-4135-11e7-9d56-25f963e998b2
The Wire:https://thewire.in/190589/bank-recap-end-indias-taxpayer-pays-cronyism/
Mint:http://www.livemint.com/Opinion/uGl7NBV5ePFHffisBJOTjL/How-corrupt-are-our-bankers.html
Economic Times:https://economictimes.indiatimes.com/industry/banking/finance/banking/public-sector-banking-mess-is-here-to-stay-and-this-is-why/articleshow/63274984.cms

[4] In the last quarter of 2017, the Central government announced a USD 32 billion recapitalization plan for the PSBs, in addition to the USD 12 billion of capital infused since the global financial crisis. Although a part of the

and Subramanian, 2016). Overall, the PSBs in India have high level of government ownership, weaker financials and relatively poor governance. The governance of the PSBs is challenged by the conflicts of dual regulation by Ministry of Finance and Reserve Bank of India (RBI), difficulties in the appointment of independent directors, lower executive compensation relative to the PBs, and the weak enforcement of external vigilance by government agencies.[5]

The study significantly contributes to the literature on the role and influence of state ownership on the moral hazard and performance of banks in the following ways. First, as the state ownership in Indian banks is high, it is possible that the moral hazard in lending is more acute.[6] Second, as most of the large Indian corporate are believed to have a high level of political connectedness (Varma et al., 2016; Gowda and Sharalaya, 2016), it could accentuate the moral hazard problems in bank lending, in the presence of weak market discipline .[7] To the best of our knowledge, this is the first paper to examine the influence of moral hazard on the lending relationship of state-owned banks in India, with a reliable firm-level loan data. In contrast to the earlier studies which employ the bank NPAs (Acharya and Subramanian, 2016; Rajan and Dhal, 2003; Balasubramaniam, 2012; Kaur and Singh, 2011), where the NPAs might be an ex-post outcome of the misbehaviour of entrepreneurs or risk taking by the firms, the analysis of firm-level borrowing data is able to reliably isolate the lender moral hazard. We limit the analysis of lending behaviour to the private sector non-financial firms in order to ensure that the social objectives of the state-owned banks (Gerschenkron, 1962; Andrianova et al., 2008; Srinivasan and Thampy, 2017) do not cloud the analysis of commercial lending decisions. The borrowers in the study largely do not fall under the priority sector lending norms mandated by the government to promote its social objectives.[8] Further, the lending data facilitates the separation of short-term and long-term borrowings, which allow us to independently examine the long-term and short-term lending decisions.

Third, the post-Basel II time period covered in the study, from year 2011 to 2016, also helps to understand the impact of Basel II risk-weighted capital regulations on the moral hazard in the state-owned and private banks. Credit rating is expected to play a significant role in lending decisions in India from 2008 onwards, owing to the Basel-II regulations, which follows the standardized approach to credit risk evaluation. The heightened supervisory oversight and capital requirements in the post global financial crisis period were expected to improve the lending practices of the banks in India. In the risk-weighted capital regulations of corporate loans, banks are expected to ensure risk-weighted capital based on the ex-ante risk of firms (Ruthenberg and Landskroner, 2008). Consequently, we use the ex-ante external credit ratings of firms along with firm fundamentals to examine the lending decisions of banks. The analysis employing credit ratings would provide valuable insights to policy makers for future review of lending decisions.

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capital infusion can be attributed to the increased capital adequacy requirements under Basel III, the soaring NPAs in the PSBs could account for a large part of the incremental capital (Acharya and Subramanian, 2016).

[5]The governance difficulties in PSBs are detailed in the P.J. Nayak committee report that was made public in May 2014.https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/BCF090514FR.pdf. Similar sentiment was echoed by Urjit Patel, Governor of RBI in a public address that "The RBI's legal powers to supervise and regulate PSBs are also constrained. It cannot remove PSB directors or management, who are appointed by the government of India, nor can it force a merger or trigger the liquidation of a PSB."https://economictimes.indiatimes.com/industry/banking/finance/banking/urjit-patel-opens-up-on-pnb-says-no-regulator-can-prevent-fraud/articleshow/63302101.cms

[6]Not only is the direct level of ownership high in the PSBs as documented in the World Bank Bank Regulation and Supervisory Survey 2012 , but also the indirect level of ownership by institutions such as the Life Insurance Corporation (LIC) of India further concentrates the control of the PSBs to the government. As indicated by Acharya and Subramanian (2016), LIC holds an average of 9.6% of the minority holdings in each of the PSBs, and holds as high as 22.5% in one of them.

[7]India is among the highest ranked countries in the crony capitalism index developed by the Economist: https://www.economist.com/blogs/graphicdetail/2016/05/daily-chart-2

[8]As defined by the RBI, priority sector comprises of agriculture and allied activities, micro small and medium enterprises (MSME),and other weaker sections of the economy. As of March 2018, the lending norms mandate a minimum lending of 40% of the net bank credit (NBC) to the priority sector. Of the 40%, the agriculture category must account for 18% of NBC, micro enterprise category must account for 7.5% and advances to weaker sections must account for 10% of NBC. Definitions of various categories can be obtained from: https://rbi.org.in/scripts/FAQView.aspx?Id=87. A firm is classified as an MSME if the overall investment in plant and machinery does not exceed INR 100 million

The key results of our study are as follows. We find that firms with observably lower credit rating have a greater probability to obtain loans from the PSBs compared to the PBs. The probability of exclusively borrowing from a PSB jumps by more than one-sixth when the ranking of a firm on riskiness moves from the 25^{th} to the 75^{th} percentile. Our results are stronger when the sample excludes the lending by the systemically important public and private sector banks.[9] With the truncated sample, the probability of exclusively borrowing from a PSB increases by more than one-third, when the ranking of a firm on riskiness moves from the 25^{th} to the 75^{th} percentile. Among the group of firms which borrow (a) exclusively from the PSBs (b) from both the PSBs and the PBs and (c) exclusively from the PBs, those which borrow exclusively from the PSBs have the lowest credit worthiness and those which borrow exclusively from the PBs have the highest credit worthiness. Our evidence that the PSBs in India lend to observably riskier firms as compared to the PBs is in line with the literature that argues political interference (Shleifer and Vishny, 1997), misalignment of employee incentives (Banerjee, 1997), and the weaker role of market discipline in the PSBs compared to the PBs (Flannery and Nikolova, 2004). Our results could partly explain the higher stressed assets of the PSBs (Acharya and Subramanian, 2016), as the higher risk at the origination stage of the loan significantly increases the probability of future loan losses. The finding of higher risk taking in the PSBs is consistent for both short-term and long-term loans, small and large loans, secured and unsecured loans, nature of collateralization, loans to clients with past relationship and new clients, and across various other subsamples of the borrower firms. The results are also robust to alternative estimation methods and alternative definition of credit ratings. The results suggest the presence of pervasive and acute moral hazard in the lending decisions of the state-owned banks.

Given the observed differences in the lending standards of the PSBs and the PBs, we identify the role of factors such as sectoral preferences, political connectedness and business group affiliation that could potentially influence the lending decisions. A comparison of the lending of the PSBs and the PBs to the manufacturing and services sector reveal that the manufacturing firms are more likely to borrow exclusively from the PSBs, in line with the anecdotal evidence that the PSBs prefer asset backed financing, whereas, the PBs are relatively more comfortable with cash flow based financing. In our results, we find that the riskier services firms are more likely to borrow exclusively from the PSBs. On the contrary, relatively less risky services firms prefer to borrow exclusively from the PBs. The results indicate that the relative riskiness of the lending decisions of the PSBs is partly driven by its lending to the riskier services firms.

We find that the political connectedness of the borrowers significantly influence the lending decisions of the PSBs. Particularly, firms that have stronger connections with the incumbent government are more likely to exclusively borrow from the PSBs. Such firms also are able to borrow with relatively lower credit ratings. As against the favourable treatment offered to firms connected to the incumbent government by the PSBs, only the relatively safer firms among those connected to the previous government secure loans from the PSBs. The findings of the influence of political connectedness are in line with the political interference view of Shleifer and Vishny (1997).

We find that the PSBs do not differentiate based on past lending relationship with borrowers, whereas, the PBs lower their risk standards for such clients. This difference in responsiveness indicate the weak organizational capabilities in retaining clients of the PSBs. We also find that firms which pledge the promoter shares as a collateral for the loan, a risky collateralizaiton practice, have a higher likelihood of borrowing from the PSBs rather than the PBs. We do not find that the PSBs offer a favourable treatment to the group affiliated firms in their lending relative to the stand-alone firms. We find that the risk profiles of the business group affiliated firms and stand-alone firms that borrow from the PSBs are similar.

Despite the more prudent norms and higher scrutiny adopted for bank lending under the Basel II norms, we find that the PSBs take higher risk in lending. The higher risk taking by the PSBs in lending appears to be poor risk-choices, when viewed against the widespread evidence of greater NPAs and the loan-write-offs of the PSBs. The study contributes significantly in understanding the

[9]State Bank of India and ICICI bank are the two domestic systemically important banks (D-SIBs) in India

impact of government ownership on moral hazard, particularly on lending quality in banking. The insights from the study offers valuable insights for the on-going debate on the future of state-owned banks in India and elsewhere in the world.

The remainder of the paper is organised as follows. The sample selection criteria, empirical approach and the key characteristics of the data are detailed along with the methodology in the next section. The subsequent section discusses the results of the empirical findings. Finally, we conclude the paper with the potential implications of our results for policy makers.

2 Data and Methodology

2.1 Data

The differences in the lending decisions between the PSBs and the PBs are ascertained using a newly available firm-level bank borrowing data in India. The novel dataset of yearly firm-level borrowing by ownership type of the bank is available from year 2011 in CMIE Prowess, an extensively used database on firm financials in India. Prowess provides the firm-level data on *short-term borrowings from banks* and *long-term borrowings from banks* along with specifics of the borrowings such as maturity structure and collateral. These new fields, which separate the current and non-current liabilities, are part of the statutory disclosures as per the revised Schedule VI of the Companies Act, 1956 notified on March 1, 2011. We consider only private sector non-financial firms for this study, as the lending to the public sector firms could be influenced by non-commercial factors. We include only firms with an asset size of at least INR 250 million (approximately USD 3.5 million), which will exclude firms that could qualify under the priority sector lending norms.[10]

While the identities of the banks are not directly disclosed along with the borrowings, the Prowess data gives two separate pieces of information related to bank borrowings, which we can combine together to classify the firms in each year into (a) firms which exclusively borrow from the PSBs (b) firms which exclusively borrow from the PBs and (c) firms which borrow from both the PSBs and the PBs. For instance, if the list of banks with active relationship only conatins the names of the PSBs and if the firm has borrowed from a bank in that year, we classify it under group (a). In similar way, we also identfy the firms which exclusively borrow from the PBs (group (b)). The remaining firms are classified under group (c).[11] As most of the firms voluntarily disclose the list of active bank relationships, we are able to classify the firms as described above. We focus only on commercial banks and exclude co-operative banks and other financial institutions from the classification.

In the analysis, we separately examine the short-term (henceforth ST) and long-term (henceforth LT) borrowings, given the prevalence of firms seeking ST loans (Banerjee and Duflo, 2014) and also due to the differences in the riskiness of loan maturities. We identify an active ST borrowing relationship in any year based on the existence of a ST borrowing as reported in the Prowess data. Similarly, an incremental LT borrowing by the firm in any year would imply the existence of LT borrowing relationship in that year.[12] As the data is available only from the year 2011, we lose one year from the sample in estimating the incremental LT borrowing. Accordingly, the sample period used for the analysis is from 2011 to 2016 for ST borrowings and from 2012 to 2016 for LT borrowings. The sample period coincides with a period in which the PSBs were in the headlines for

[10] As per the RBI, a firm is classified under priority sector if the total investment of the firm in plant and equipment do not exceed INR 100 million. Hence, assuming a tangible asset ratio of 0.4, we arrive at an approximate asset size of INR 250 million for firms that are not part of the priority sector

[11] PBs include old private sector banks, new private sector banks and foreign banks as per the RBI classification of private sector banks.

[12] The ST borrowing data from Prowess do not include the current portion of long term debt. The current liabilities reported is separated as short term borrowing, trade payables, current maturities of debt, short term advances from customers/employees , interest accrued but not due and other liabilities.

increase in bad assets (since the default of Kingfisher Airlines in 2011 [13]), changes in the supervisory review process on account of Basel II implementation, and increased capital adequacy requirements due to the proposed Basel III implementation.

Based on the mapping of bank borrowings to bank ownership types, we end up with 11,466 firm-year observations for ST and 3,092 firm-year observations for LT borrowings. If we consider the broader definition of bank relationships as used in earlier studies (Berger et al., 2008; Srinivasan and Thampy, 2017) in India, it would be approximately 1.7 times as many ST relationships reported in this study and approximately 6 times as many LT relationships reported in this study.[14] If we have to reliably examine the moral hazard in lending decisions, then we must isolate the lending relationship from other types of relationships between firms and banks, such as deposit or trade finance relationship. Therefore, this study employs a more reliable identification of bank relationships, available from the improved disclosure norms, and examines the lending-borrowing relationship.

The key explanatory variable used in this study to examine the differences in the lending decisions is the average credit rating (AR) of a firm during a year. The credit rating has gained importance in the context of Basel-II implementation in Indian banks. As of March 2008, all Indian banks were compliant to the standardized approach of credit risk as per the BCBS norms regarding pillar-1 capital requirements. This regulatory change in 2008 had a significant impact on the number of firms that got rated in India.

We measure the (a) short-term AR (SAR) ratings provided by the rating agencies on the short-term borrowings and working capital loans (b) long-term AR (LAR) based on the credit ratings assigned for term loans, long-term loans and medium term loans. The rating information, obtained from CMIE Prowess, is the disclosed ratings by CRISIL (Standard & Poor group), ICRA (Moody′s group), Fitch, CARE and Brickwork. All the rating agencies are on the accredited list of credit rating agencies used by banks for the purpose of risk weighting the bank′s claims (RBI, 2012). We have coded them into rating scores ranging from 1 to 6 based on risk rating descriptions classified by CMIE Prowess. 1 indicates default, 2 indicates high/substantial risk, 3 indicates inadequate safety, 4 indicates moderate safety, 5 indicates adequate /high safety and 6 indicates highest safety. Classification of ratings to an ordinal variable based on the relative riskiness is common in the ratings literature Hasan et al. (2015); Almeida et al. (2017). The trends for SAR and LAR of firms borrowing exclusively from PSBs and those from the PBs are indicated in Figure 1. The trends suggest a temporal separation between group (a) and (b) firms. The details of mean SAR and LAR by ownership type of banks, given in appendix Table A1, suggests that group (a) firms have the lowest amongst all the groups. The cross-sectional distribution of average credit rating of firms in groups (a) and (b) is indicated in Figure 2. This distribution also suggests a relatively higher risk profile for firms borrowing exclusively from the PSBs.

When we include the rated firms in the sample along with bank relationship data and other control variables, out of the 11,466 firm-year observations we end up with 3,109 firm-year observations and 1,055 unique firms. Similarly, with data on LT credit rating for the sample period, out of the 3,092 firm-year observations we end up with 1,670 firm-year observations with 945 unique firms in the baseline sample.[15] Evidently the number of observation in LT sample is lower given that LT loans are sought infrequently by firms. Approximately 81% of our final sample are listed firms.

[13] https://www.ft.com/content/431573a6-5c71-11e1-911f-00144feabdc0

[14] Berger et al. (2008); Srinivasan and Thampy (2017) relied on a broad definition of a bank-firm relationships in their studies on multiple banking relationships and cash flow constraints of Indian firms respectively. The bank relationship data from CMIE prowess database used in both these studies can be in the form of borrowings, trade finance, deposit relationship or any other intermediation services offered by the bank. Moreover, if a firm has an active relationship with a bank in any year, that does not necessarily imply that the firm has sought any new engagement with the bank in that year, for e.g. if a LT loan is taken from a bank, the relationship may continue for years.

[15] Although our results are not affected, we winsorize the data 0.75% at each tail based on leverage ratio to avoid outlier observations.

2.2 Methodology

As we intend to estimate the relative difference in the lending decisions, we use a lender type prediction model similar to Carey et al. (1998). In this model, the bank type is determined by:

$$Lender = f(\text{observable risk proxies, information proxies, control variables}) \quad (1)$$

Observable risk proxies in the model refers to variables which are ex-ante known to the lender and are expected to influence the lending decision. We use credit rating as described in subsection 2.1, which captures the creditworthiness of the firm, as the key observable risk proxy. Information and control proxies employed in the model include the firm-specific fundamentals such as return on assets (ROA) as a measure of profitability, leverage (Debt to Equity), tangibility (proportion of fixed assets less intangible assets to total assets), natural logarithm of total assets as a proxy for size and Altman Z-score for emerging markets (Altman, 2000), a widely used proxy for distress probability. Description of all the variables are provided in appendix Table A2. The descriptive statistics and the year-wise proportion of the key sub-groups analyzed in this study are indicated in table Table 1a and Table 1b. Pairwise correlations of the variables are indicated in appendix Table A3. Finally we control for the industry effects (for 146 industries) and year effects, similar to other studies (Carey et al., 1998; Beck et al., 2018; Bosch and Steffen, 2011).

We use pooled Ordinary Least Square (OLS) probit models to estimate the determinants of the lending decision by banks. The multivariate specification of the potential firm characteristics that determine bank-firm lending relationship can be expressed as:

$$\Phi^{-1}(PSBBS_{i,t}) = \alpha + \beta * SAR_{i,t-1} + \theta * X_{i,t-1} + \mu_j + \tau_t + \epsilon_{i,t} \quad (2)$$

where $PSBBS_{i,t}$ is a dummy variable that takes value 1 if firm i has exclusive short-term borrowing relationship with a PSB in year t, SAR is the average short-term credit rating of the firm in year $t-1$, X is a vector of lagged firm specific control variables, μ_j is the industry fixed effect, τ_t controls for year fixed effects and $\epsilon_{i,t}$ is an i.i.d error term. Analogous to Equation 2, the examination of the long-term lending relationship is done with $PSBBL$ and LAR, which corresponds to incremental LT borrowing exclusively from the PSBs and average LT credit rating respectively. Similar specifications are employed for the PBs with variables $PBBS$ and $PBBL$.

All the models are estimated with standard errors clustered at firm-level and are corrected for heteroscedasticity. In alternative estimations, we control for other factors that could mitigate the risk in lending by banks. The possible mitigants include the existing relationship with firms, presence of collateral, political influence and affiliation with a business group.

3 Findings and Discussion

3.1 Baseline Results

3.1.1 Credit Rating and Probability of Lending

In this section, we discuss the results of the multivariate analysis specified in Equation 2. The results of the baseline estimation are presented in Table 3. We compare the riskiness of firms that borrow exclusively from PSBs with that of others. Columns (5) and (6) indicate that the relatively riskier firms, as measured by SAR, have a significantly higher likelihood of banking exclusively with the PSBs relative to banking with the PBs. For instance, a one unit drop in the SAR would correspond to a 6.0% increase in the probability of borrowing exclusively from the PSBs. Hence, if we consider a rating score decline from the 75^{th} percentile to the 25^{th} percentile (2.5 unit movement in SAR),

the corresponding probability increases by 15.0%. Similarly, riskier firms have a higher likelihood of borrowing LT loans exclusively from the PSBs as indicated in column (7). For instance, a decline in LAR from the 75^{th} percentile to the 25^{th} percentile (2 unit movement in LAR) is accompanied by an increase in probability of banking exclusively with the PSBs by 16.6% as given in appendix Table A4. When the estimations are repeated without industry controls (columns (1)-(4)), the results remain robust. However, we lose some firm-year observations given the lack of variation in dependent variable within certain industries. The multivariate results estimated based on Equation 2 are in line with the univariate results shown in Table 2 that indicate a significantly higher riskiness for the sets of firms banking exclusively with the PSBs. We repeat the analysis specified in Equation 2 for firms borrowing exclusively from PSBs and exclusively from the PBs. The unreported results indicate a higher risk taking by the PSBs as compared to the PBs.

Further, in Table 4 we compare the riskiness of three groups of - (a) firms borrowing exclusively from the PSBs (b) firms borrowing from mix of the PSBs and the PBs and (c) firms borrowing exclusively from the PBs, taking any two at a time. The comparison indicates that the creditworthiness of the firms is the least for group (a) and the highest for group (c). Overall, our baseline findings indicate that the PSBs lend to observably riskier firms.

While we find that the PSBs lend to riskier firms as compared to the PBs, it is possible that the PBs lend to firms with better future prospects within the pool of loan applicants. However, if the PSBs were making optimal risk choices within the pool, the level of their ex-post risk adjusted performance would have been better. The overwhelming evidence on the performance of the PSBs (Acharya and Subramanian, 2016), however, indicates otherwise. It is also possible that there is a conflict of interest in awarding the credit ratings as the firms might avail non-rating services from the rating agencies. As an outcome, the ratings are likely to be less informative. However, a recent study by Baghai and Becker (2017) indicate that firms which avail non-rating services are only about 4.4% of the universe of rated firms in India. Moreover, such conflicts would largely bias the ratings upwards for all the firms that avail such services and would not affect the comparison. The baseline findings are in line with the theoretical arguments presented in section 1 on the presence of greater moral hazard in the lending decisions of the state-owned banks.

As the Indian banking system has many medium-sized banks, which are considered to be riskier (Acharya and Subramanian, 2016), we try to isolate the lending decisions of such banks, by excluding the Domestic Systemically Important Banks (D-SIBs).

3.1.2 Role of Domestic Systemically Important Banks and New Private Sector Banks

The D-SIBs are subjected to a higher degree of supervision by the RBI given the importance of such banks to the domestic financial system.[16] When we exclude those firms that have a banking relationship with D-SIBs from the analysis of borrowings, we are left with a sample that is close to 1/5th of the baseline sample, given the larger contribution of D-SIBs to the baseline sample. The results in Table 5 (columns (1)-(4)) indicates that once the D-SIBs (State Bank of India, a PSB and ICICI bank, a PB) are excluded, the overall riskiness of decisions by PSBs significantly increases relative to that of the PBs. [17] For instance, the results in column (1) for ST loans and (3) for LT loans indicate even higher probability for a firm with a lower credit rating to borrow from PSBs as compared to the baseline results in Table 3 (columns (5) and (7)). In comparison, the inclusion of SBI in the sample was considerably reducing the estimate of the riskier behaviour of other PSBs in the baseline results. The marginal effects of SAR (detailed in appendix Table A4) indicate that a decline from the 75^{th} percentile to the 25^{th} percentile (3 unit movement in SAR) results in an increase in probability of banking exclusively with PSBs by 34.8%. Similarly for the LT loans, if the

[16]The details of the additional scrutiny can be accessed from: https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=31680

[17]The list of D-SIBs is as per the 2016 classification by the RBI: https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=37872

rating score of a firm goes down from the 75^{th} percentile to the 25^{th} percentile (1 unit movement in LAR), the probability of banking exclusively with the PSBs increases by 14.8%.

The private sector banks that were incorporated in the 1990's, called the new generation private sector banks (NPBs) in India, are often treated as a distinct group for the bank-level analysis in India (Acharya and Subramanian, 2016), owing to their ownership and governance structure. Therefore, we compare the relative lending decisions of the NPBs with the rest. The results of the estimations, where the dependent variable takes a value of 1 if the firm is exclusively banking with the NPBs and 0 if the firm is banking with any of the PSBs or other PBs or a mix of both, for both ST borrowings and LT borrowings are presented in columns (5) and (6). The results indicate that the NPBs prefer to lend to creditworthy firms relative to the other banks.

As we have found that the PSBs lend to observably riskier firms as compared to the PBs, we now attempt to uncover the potential reasons behind the apparently higher risk taken by the PSBs in lending.

3.1.3 Marginal Impact of Collateral and Loan Amount

The results indicated in Table 6 reestimates the baseline model for secured and unsecured borrowing separately. As evident in the number of observations in the estimation samples in columns (1)-(4), most of the lending is backed by collateral.

The results of the secured borrowings are in line with baseline estimation. The coefficients of the explanatory variable SAR and LAR compared (only in means) with baseline table indicates that banks lower the standards in the presence of additional collateral, possibly due to the added safety (Bester, 1987; Besanko and Thakor, 1987). However this difference in estimated coefficients is not statistically significant. The analysis on unsecured loans indicates broadly a similar result obtained in the baseline estimation.

As we are modelling the relative decision making of the PSBs and PBs based on ex-ante observable risk proxies, the loan amount is potentially a simultaneous variable that suffers from simultaneity bias (Wooldridge, 2002, p. 51). Given the econometric concern, we try to evaluate the role of the amount borrowed in the following ways. In the first specification, we control for the contemporaneous loan amount, which assumes that the amount sought is the amount sanctioned. The results of this specification, shown in Table 7, are consistent with the baseline results. In unreported results, we do a subsample analysis of the baseline estimations separately for firms with loan amount above and below the median. The results reveal that the better risk profile of firms banking with the PBs is partly driven by the bigger borrowers. It implies that PBs apply higher rating standards for larger loans, a distinction not observed among the PSBs.

The baseline results suggest the presence of significant differences in the lending decisions of the PSBs and the PBs. In order to further ascertain the channels that contribute to the riskier choice of the PSBs, we examine how far sectoral preferences, existence of prior relationship, business group affiliation and political influence, impact the lending decisions.

3.2 Factors affecting the difference in Lending Decisions

3.2.1 Sectoral Preferences

Anecdotal evidence suggests that the PSBs and the PBs have sectoral preferences [18]. We examine the extent to which the exposure to manufacturing and services sectors could explain the observed

[18]The excerpts of the speech by the RBI Deputy Governor on Infrastructure financing can be accessed from: https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/MATEDG200813.pdf

difference in the credit risk profiles of firms banking exclusively with the PSBs and the PBs. The sectoral dummy variable takes value of 1 for manufacturing firms and 0 when classified as a services firm. We exclude firms classified as both services and manufacturing. The comparative riskiness in the lending decisions of the PSBs and the PBs for LT and ST borrowing remains consistent with the baseline results. The sectoral analysis indicates (see Table 8) that manufacturing firms have a higher probability to bank exclusively with PSBs. The coefficient of the interaction of the sectoral indicator and the rating score suggests a higher probability for the riskier service firms to borrow exclusively from PSBs. The interaction term shows a similar difference between PSBs and PBs for manufacturing firms, albeit small. The propensity of manufacturing firms to borrow exclusively from PSBs is in line with the anecdotal evidence that PSBs prefer asset backed financing and the PBs are relatively comfortable with cash flow based financing. The analysis suggests that the lending of the PSBs to riskier service firms contribute to the observed differences in the risk profiles.

3.2.2 Relationship Lending

As the lending decisions could be influenced by the existing relationship (Cole, 1998), we control for the pre-existing borrowing relationship between the bank and the firm through additional dummy variable (results in Table 9). The results are consistent with baseline estimations after controlling for the past borrowing. We also interact the past relationship dummy with the riskiness of the firm. The results indicate that the PBs lower the risk standards in favour of clients with prior relationship as suggestd by Cole (1998). Whereas, the results for the PSBs do not indicate any differentiation on account of prior borrowing relationship. These results suggest that the observed differences in the riskiness of the lending decisions of the PSBs are not driven by the preference for lending to existing clients at lower credit standards.

3.2.3 Role of Agency Frictions - Political Connectedness

As the credit rating is a comprehensive measure of credit risk of a firm, we believe that the lower average rating of the firms borrowing from the PSBs documented in this study is unlikely to be attributable to the adverse selection from the lack of information. We therefore explore the potential role of agents as an explanation for our findings on the PSBs.

Possibly there are two channels of agent behaviour that unduly influences the lending decisions in banks. First, we examine the interference by agents other than the bank officials. As stated earlier, the political view of the PSBs suggest that the banks are likely to direct credit to populist or inefficient projects. Second, the bank officials could make suboptimal lending decisions due to the lack of powerful incentives such as performance-based pay. Anchored on the political interference theory of Shleifer and Vishny (1997), we focus on the former channel of agency conflict as the role played by employees is difficult to isolate from the given data.

The first step in ascertaining the political interference on bank lending decisions is to identify the firms in the sample with the potential for exerting political influence (PI). In order to classify the firms with potential political influence, we employ an event study methodology that tracks the stock market performance of firms during general elections as adopted by Fisman (2001); Cooper et al. (2010); Datta and Ganguli (2014); Ghosh (2011) . The approach essentially computes the cumulative abnormal stock return (CAR) using the market model for the period between the date of exit poll results and the next working day after the election results. As widely acknowledged, PI is a complicated measure in countries where the political decisions are decentralized (Fan, 2016; Fisman, 2001). The federal structure of India adds further complexity in isolating the PI of firms (Fisman, 2001). The detailed approach we have adopted is as follows.

In the April-May 2014 Indian general elections was a political regime shift as the party in power for the previous 10 years was voted out. This political regime shift event helps to identify two sets of

firms with political influence (a) firms which recorded a high CAR that is indicative of a favourable treatment from the incoming regime (henceforth called as PIC) and (b) firms which recorded a low CAR that is indicative of a favourable treatment from the incumbent regime (henceforth called as PIP). The classification of the firms into two groups is in line with the observation made by Fisman (2001) that the business-politics connections tend to shift considerably over time.

In order to identify the PICs and PIPs, we use one standard deviation around the mean of the CAR. The mean and standard deviation of CAR for 2014 is approximately -0.2% and 8.8% respectively. From the universe of listed firms in India, we identify close to 375 firms each, which are one standard deviation above and below the mean CAR as the set of PI firms.[19] Our estimate of PI firms is close to that of Narayanaswamy (2013), who employed the universe of BSE 500 firms. When we match the PI firms with the sample employed in baseline estimation (Equation 2), we end up with 38 firms that are classified as PIP firms and 75 firms that are classifed as PIC firms.

We examine the effects of political connectedness on lending to PIP firms until 2014 and similar effects on PIC firms after 2014. Then, we flip the analysis to examine the effect of current ruling regime on the PIP firms and the role of previous ruling regime on the PIC firms. The results indicate that the political connectedness matters in the borrowing from banks, although the effects are only marginally significant in some instances. As indicated in Table 10 and Table 11, the PIP firms had a higher probability of banking exclusively with the PSBs during the previous regime, whereas, the PIC firms had a lower probability in the same period. The result is consistent for both the LT and ST loans.

Under the current regime, only the PIP firms with a higher rating are preferred in the lending (see Table 10, columns (3)). We do not find, under the current regime, that the PIC firms have a higher likelihood of obtaining credit from the PSBs. However, the PIC firms are preferred by the PBs (coefficient of *PIC*current regime* in Table 10, column (8)) even when they have a lower rating relative to others (coefficient of *PIC *current regime*LAR* in Table 10, column (8)). This could suggest a rent-seeking behaviour of the PBs by catering to such firms. Overall, the results indicate that the political connectedness of the firms matter in the lending decisions, predominantly in that of the PSBs. This is in line with the findings on the role of political connectedness in lending decisions of Italian and Pakistani banks (Sapienza, 2004; Khwaja and Mian, 2005). Our results therefore suggest that the lending to the politically linked firms could be one of the reasons behind the relative weaker profiles selected by the PSBs.

The lending to a firm could also be influenced by the potential business opportunity presented by an entire business group, when the loan applicant is a group affiliate. We examine such a possibility in the next section.

3.2.4 Business Group Lending

We identify firms that are part of business groups as per the CMIE prowess classification of firms. As argued by Khanna and Palepu (2000), business group affiliated firms are likely to have better access to external finance. We do not find evidence that the PSBs differentiate between business group firms and standalone firms (see Table 12). We find that the risk profiles of the business group affiliated firms and the stand-alone firms that borrow from the PSBs are similar. However, we do find that the PBs have a lower probability of lending to firms affiliated with business groups. In addition, the results suggest that the PBs are very selective and lends only to the higher rated group affiliated firms.

[19]The listed firms include all firms listed either in National Stock Exchange (NSE) or Bombay Stock Exchange (BSE).

3.2.5 Organizational Capabilities and Governance

Another possible reason for the differences in lending decisions might be the variation in the organizational capability and governance of the PSBs and the PBs. While we do not have rich data to ascertain the relative differences in organizational capability and governance of the PSBs and the PBs, we do find that the better performance of the PBs is partly driven by its lending to bigger clients, possibly due to their ability to retain clients. We re-estimate the baseline specification for the top most decile of firms based on asset size. We observe that the PBs have significantly higher probability to lend to more creditworthy firms (2% increase in probability per unit change in rating in baseline and 7.7% in the case of top most decile), which is not observed for firms borrowing from the PSBs. Even if we estimate the size effect by splitting the sample to above and below median asset size, the results indicate that the relative poor risk profiles of the borrowers from the PSBs are driven by the larger sized firms. Also, as reported earlier in the paper, the PBs tend to lower the credit standards for firms with existing banking relationship, which signals the higher capability of the PBs to attract and retain clients. Earlier studies by Berger et al. (2008); Srinivasan and Thampy (2017); Gormley (2010) suggests that the PBs tend to select better firms . Taken together, our results indicate the relative competitiveness of the PBs to hold on to the bigger and the safer borrowers.

3.2.6 Role of Pledge of Shares

Commonly the bank borrowing of Indian firms are accompanied by pledging of the shares held by the promoters as a collateral. Promoters of close to 60% of all the listed firms in India have pledged their shares for additional funds in year 2018.[20] Bank borrowings accompanied by pledge is primarily meant for the working capital needs of the firms (Singh, 2017). The pledge of shares is expected to supplement the pledgability of the tangible assets of a firm and offer greater security to the lender bank. However, beyond certain level the pledge of promoter shares is considered as risky by the RBI.[21] We re-estimate the baseline specification with an additional dummy to capture loans accompanied by pledge. The data on promoter pledge of shares is obtained from the Prowess database. We find that firms which pledge the promoter shares as a collateral for the loan have a higher likelihood of borrowing from the PSBs rather than the PBs (see results in Table 13).

3.3 Robustness of the Results

3.3.1 Alternative Estimations

As we observe that the riskiness of the borrowers show an ordered pattern, where it is the least for the exclusive borrowers from the PBs, the highest for the exclusive borrowers from the PSBs, and the borrowers from both the PSBs and the PBs falling in between, we re-estimate the baseline specification using an ordered probit model. The results of the ordered probit model given in Table 14 (see columns (1)-(4)) are consistent with the earlier findings that the riskier firms tend to borrow exclusively from the PSBs.

Further, we estimate the baseline specification with an average rating of all the debt instruments that were rated for the firm in a year rather than separating them into SAR or LAR. This yields us a larger sample, close to 70% of all firms that have borrowed, and the results are presented in appendix Table A5. The results with the average credit rating also yield similar pattern in the risk profiles of borrowers from the PSBs and the PBs.

[20] The statistic on the proportion of listed firms with promoter pledge of shares is accessed from: https://www.bseindia.com/corporates/Pledge_new.aspx

[21] The riskiness of share pledging has been reported by the RBI in its financial stability report: https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FSR29122014_FL.PDF

As all non-linear fixed effects (FE) models exclude the firms with only one year of borrowing and has limitations in dealing with firm dummies (Greene, 2004), we account for the firm fixed effects in two alternative ways. First, we use a panel fixed effects logit model. Since time invariant observations are dropped from such a model, we face convergence issues for LT borrowings in this specification.[22] Hence, we use this estimation only for (a) the ST borrowings in any year and (b) both the ST and the LT borrowings in a year (details in appendix Table A6). Second, we employ a linear probability model (LPM). The results given in appendix Table A6 are largely consistent with the baseline results.

3.3.2 Subsample of Listed Firms

It is reported that the ratings of unlisted firms are relatively less monitored by the rating agencies and the ratings tend to follow the downgrades of the listed firms in similar industries (Gopalan et al., 2017). We control for the possible monitoring difference by estimating baseline specification only for the listed firms in an unreported table. We also include the price-to-book ratio as an additional control variable to capture the future growth opportunities of the listed firms as that might influence the lending decisions. The relative riskiness of lending by the PSBs is higher in the case of listed firms as well.

3.3.3 Any Course Correction in Bank Behaviour?

As the banks may improve the decision making based on the observed outcomes of the earlier years, we estimate the baseline specification for the last year of the sample (FY 2015-16). The year also witnessed an asset quality review by the RBI in the second quarter that forced the banks to reclassify considerable amounts of the ever-greened loans as non-performing assets.[23] The unreported results are consistent with the baseline estimation. In fact the probability of a riskier firm banking exclusively with a PSB has increased in 2016. Based on our results, we do not find any change in the lending standards adopted by the PSBs in 2016 for both the ST and LT loans.

3.3.4 Exclusion of Other Risk Proxies

Some of the control variables employed in the estimations are also considered as proxies of firm risk (Carey et al., 1998). For instance, both leverage and z-score are observable risk proxies that are correlated with our main explanatory variables, the average credit rating. In addition, leverage is one of the factors used in arriving at a z-score and z-score is a well established predictor of distress. Therefore, we re-estimate our baseline specification by excluding these variables. The results, shown in appendix Table A7 columns (1)-(4) indicate similar sensitivities to rating score as reported in the baseline results.

3.3.5 Exclusion of Firms in Distress

Some of the firms in the sample appear to have borrowed even when the credit rating of the firm indicates a default, which are possible instances of restructuring or rescheduling of existing loans. Hence, we evaluate the baseline estimation by excluding the firms with an AR below 2. The results

[22]The details of this estimation can be accessed from https://www.stata.com/manuals13/xtxtlogit.pdf and https://www.stata.com/manuals13/rclogit.pdf

[23]The circular on asset classification norms can be accessed from: https://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=9908
The speech by the then RBI governor on the review process can be accessed from: https://rbi.org.in/scripts/BS_SpeechesView.aspx?Id=992

of this analysis, shown in Table A7 columns (5)-(8), is consistent with the baseline results shown in Table 3.

4 Conclusion

The characteristics of government ownership in banks, such as implicit guarantees and lack of incentives to control the riskiness, are conducive to perpetuate moral hazard and could result in inefficient risk choices. Using a novel bank-firm level data of corporate borrowings, we examine the lending decisions of the state-owned Indian banks (PSBs) and compare their riskiness with those of the private sector banks (PBs). We find that the PSBs have a greater propensity to lend to observably riskier firms relative to the PBs. The result is robust to the inclusion of additional covariates and alternative estimations.

In order to ascertain the factors that contribute to the apparently riskier lending choice of the PSBs, we investigate to what extent, collateral offered in the borrowing, sectoral preferences of the banks, preference for relationship lending, political influence of the firms, and the business group affiliation of the borrower, impact the role of the observable risk proxy in the lending decisions. The comparison of the lending of the PSBs and the PBs to the manufacturing and services sector reveal that the lending of the PSBs to riskier service firms contribute to the observed differences in the risk profiles. The analysis on the potential influencers of the lending decisions reveals that connectedness with the current political regime may matter in accessing credit. A firm that would potentially benefit from the ruling regime has a higher likelihood of banking exclusively with the PSBs. It is possible that the pervasive higher risk taking observed in the PSBs is perpetuated by the weakened role of the market discipline in India.

The paper contributes to the literature on market discipline and moral hazard in banking systems dominated by state ownership. The findings of the imprudent lending standards maintained by the PSBs presented in the study are corroborated by the increasing stressed assets in the Indian banking. While the most recent announcement on the recapitalization of the PSBs is targeted to improve the stability of Indian banking, it is advisable for policy makers to actively consider the credit risk choices of the PSBs, revealed in the study, to formulate policies to improve the monitoring and accountability of the PSBs.

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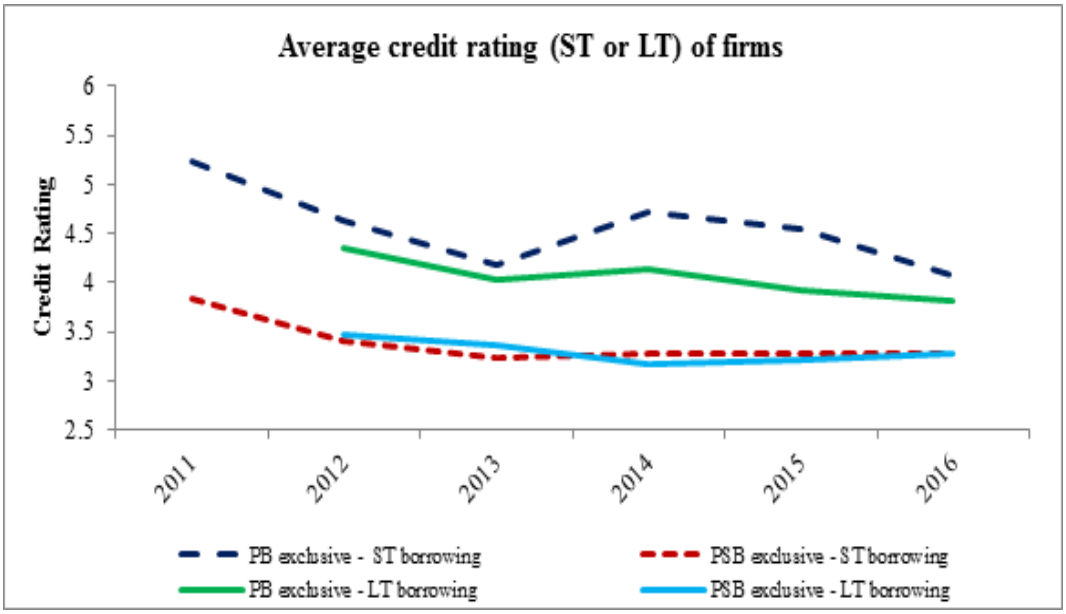
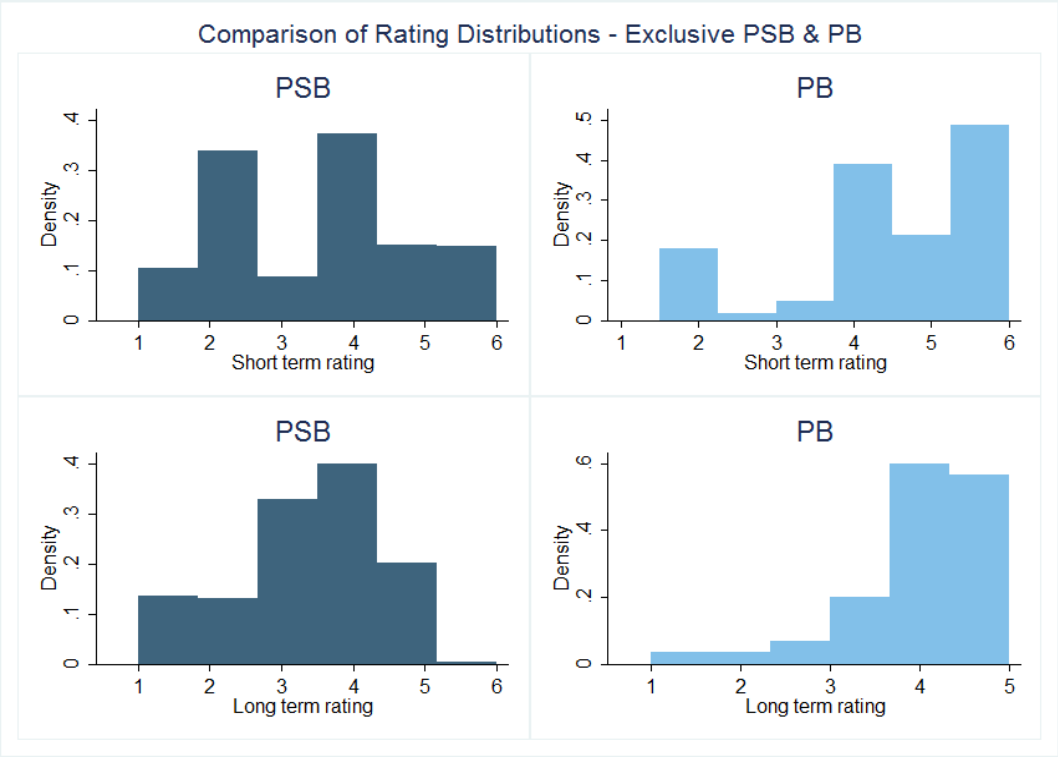


Figure shows the average credit ratings of firms that borrow exclusively from the public sector banks (PSBs) and exclusively from the private sector banks (PBs).

Figure 1: Average Credit Ratings of Borrower Firms by Bank Ownership Type



The figure displays the distribution of the average rating of a certain borrowing maturity from a certain bank type over the entire sample period

Figure 2: Distribution of Credit Rating of Borrower Firms by Bank Type and Maturity

Table 1a: Summary Statistics of the Explanatory Variables - Baseline Specification

The detailed variable definitions are in appendix Table A2. Obs. refers to the number of observations and P(x) refers to the x^{th}percentile of the distribution

Short Term Borrowing	Obs.	Mean	Std. Dev.	P(10)	P(50)	P(90)
Short term average credit rating	3109	4.17	1.54	2	4	6
Leverage	3109	3.11	5.67	0.63	2.18	6.02
Return on Assets	3109	3.03	7.78	-2.94	3.05	9.85
Tangibility	3109	0.40	0.28	0.09	0.36	0.77
Z-score	3109	5.56	2.35	3.51	5.43	7.95
Ln Asset	3109	8.63	1.51	6.68	8.57	10.67
Long Term Borrowing						
Long term average credit rating	1670	3.76	1.18	2	4	5
Leverage	1670	3.39	5.72	0.82	2.44	6.11
ROA	1670	2.30	6.12	-4.22	2.58	8.35
Tangibility	1670	0.40	0.27	0.07	0.38	0.74
Z-score	1670	5.27	1.93	3.25	5.22	7.31
Ln Asset	1670	8.56	1.60	6.48	8.50	10.72

Table 1b: Year-wise distribution of the dichotomous variables

This table shows the year-wise proportion of the various sub-groups of firms analyzed in this study. Detailed descriptions of the variables used in the study can be found in appendix Table A2

	2011	2012	2013	2014	2015	2016
Exclusive borrowers from PSB (%)	28.81	30.15	34.74	36.43	35.64	35.36
Exclusive borrowers from PB (%)	2.17	2.29	2.57	2.97	2.81	4.48
Borrowers from both PSBs and PBs (%)	69.01	67.55	62.68	60.59	61.53	60.14
Business group affiliates (%)	53.99	49.04	47.97	47.58	46.71	48.11
Political Influence by previous regime (%)	5.63	5.12	8.06	8.00	9.13	7.91
Political Influence by current regime (%)	19.43	17.81	18.08	18.22	16.04	16.70

Table 2: Univariate Comparison of Independent Variables by Bank Ownership Type

The difference in means of the key independent variables used in this study for firms that borrow (a) exclusively from the PSBs (Exclusive PSB) and (b) both from the PSBs and PBs (Both PSBs & PBs) is shown in this table. The variable definiations are given in appendix Table A2. S.E indicates the standard error, Diff.means indicates the difference in the mean value between the two groups and the figures in parenthesis indicates the standard error of the difference in the means. The estimation employed is a two group t-test comparison of means. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	Exclusive PSB			Both PSBs & PBs			
Panel A - ST Borrowing							
	Obs.	Mean	S.E	Obs.	Mean	S.E	Diff.means
SAR	1049	3.45	0.04	2060	4.53	0.03	1.08*** (0.06)
Leverage	1049	3.22	0.14	2060	3.05	0.14	-0.18 (0.22)
ROA	1049	2.39	0.19	2060	3.36	0.19	0.97*** (0.29)
Tangibility	1049	0.43	0.01	2060	0.39	0.01	-0.05*** (0.01)
Z-score	1049	5.63	0.07	2060	5.52	0.05	-0.10 (0.09)
Ln Asset	1049	7.68	0.04	2060	9.12	0.03	1.44*** (0.05)
Panel B - LT Borrowing							
LAR	588	3.32	0.05	1082	3.99	0.03	0.68*** (0.06)
Leverage	588	3.42	0.21	1082	3.37	0.18	-0.04 (0.29)
ROA	588	2.10	0.24	1082	2.41	0.19	0.31 (0.31)
Tangibility	588	0.44	0.01	1082	0.38	0.01	-0.06*** (0.01)
Z-score	588	5.35	0.07	1082	5.22	0.06	-0.12* (0.10)
Log Assets	588	7.70	0.06	1082	9.03	0.05	1.32*** (0.08)

Table 3: Determinants of lending decisions by PSBs/PBs

The table shows the results of the baseline estimation given in Equation 2. The dependent variable (columns (1), (3), (5) and (7)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2), (4), (6) and (8), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2) and (5)-(6)) and LT (columns (3)-(4) and (7)-(8)) maturities are evaluated separately. Robust standard errors, clustered at firm level are presented in the parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. All the estimations control for industry and year fixed effects.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB	(5) ST Borrowing from PSB	(6) ST Borrowing from PB	(7) LT Borrowing from PSB	(8) LT Borrowing from PB
SAR_{t-1}	-0.208***	0.214***			-0.179***	0.234***		
	(0.031)	(0.054)			(0.033)	(0.073)		
LAR_{t-1}			-0.244***	0.372***			-0.247***	0.282***
			(0.041)	(0.080)			(0.046)	(0.081)
$Leverage_{t-1}$	-0.003	-0.027	0.004	-0.012	-0.005	0.000	-0.003	-0.004
	(0.005)	(0.032)	(0.006)	(0.016)	(0.006)	(0.023)	(0.007)	(0.014)
ROA_{t-1}	0.005	0.017*	0.006	-0.022	0.006	0.021*	0.013	-0.028**
	(0.005)	(0.010)	(0.008)	(0.014)	(0.005)	(0.011)	(0.008)	(0.014)
$Tangibility_{t-1}$	0.302*	-1.305***	0.421**	-0.606**	-0.26	-1.507***	0.083	-1.117***
	(0.163)	(0.319)	(0.164)	(0.282)	(0.207)	(0.440)	(0.225)	(0.412)
$Z-score_{t-1}$	0.02	0.004	-0.002	-0.009	0.019	-0.006	-0.001	-0.015
	(0.019)	(0.034)	(0.025)	(0.048)	(0.021)	(0.033)	(0.027)	(0.041)
$Logasset_{t-1}$	-0.372***	-0.294***	-0.321***	-0.346***	-0.427***	-0.432***	-0.341***	-0.478***
	(0.040)	(0.062)	(0.042)	(0.060)	(0.047)	(0.073)	(0.047)	(0.078)
$Constant$	3.224***	-0.145	2.993***	-0.379	2.945***	1.617*	3.429***	1.969**
	(0.361)	(0.553)	(0.398)	(0.582)	(0.610)	(0.909)	(0.852)	(0.805)
Firm-years	3324	3324	1830	1830	3109	1592	1670	985
Industry Effects	No	No	No	No	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.206	0.141	0.172	0.124	0.275	0.290	0.227	0.265

Table 4: Comparative riskiness of Borrower Firms by Bank ownership types

In this table, we compare the riskiness of three groups of - (a) firms borrowing exclusively from the PSBs (b) firms borrowing from both the PSBs and the PBs and (c) firms borrowing exclusively from the PBs, taking any two at a time. The dependent variable is a dummy which takes value of 1 if a firm has exclusively borrowed short-term (1) or long term loans (2) from both the PSBs and the PBs in any year and 0 if the firm has borrowed exclusively from the PSBs. A similar dummy variable is used for (3) and (4) where it takes value of 1 when the borrowing is exclusively from the PBs and 0 if it has borrowed from both the PSBs and the PBs. Robust standard errors, clustered at firm level are presented in the parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. All the estimations control for industry and year fixed effects.

	(1) ST Borrowing from both PSBs & PBs	(2) LT Borrowing from both PSBs & PBs	(3) ST Borrowing from PBs	(4) LT Borrowing from PBs
SAR_{t-1}	0.173***		0.175**	
	(0.034)		(0.080)	
LAR_{t-1}		0.240***		0.125
		(0.047)		(0.085)
$Leverage_{t-1}$	0.005	0.003	-0.004	-0.004
	(0.006)	(0.007)	(0.022)	(0.015)
ROA_{t-1}	-0.008	-0.012	0.018	-0.02
	(0.006)	(0.009)	(0.012)	(0.015)
$Tangibility_{t-1}$	0.301	-0.004	-1.443***	-0.968**
	(0.210)	(0.225)	(0.500)	(0.466)
$Z-score_{t-1}$	-0.018	0.004	-0.001	-0.027
	(0.021)	(0.028)	(0.038)	(0.040)
$Logasset_{t-1}$	0.455***	0.393***	-0.568***	-0.627***
	(0.050)	(0.051)	(0.089)	(0.097)
$Constant$	-3.454***	-4.350***	2.883***	3.907***
	(0.636)	(0.933)	(0.986)	(0.899)
Firm-years	3011	1609	1110	659
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.284	0.245	0.323	0.324

Table 5: Role of Domestic Systemically Important Banks and New Private sector banks

The table shows the results of the estimation that limit the sample to medium sized banks. We exclude the D-SIBs (State Bank of India and ICICI Bank) from this analysis (columns (1)-(4)). The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. Models (5)-(6) do the same analysis for firms that borrow exclusively from New private sector banks (Axis Bank, DCB Bank, HDFC Bank, ICICI Bank, Yes Bank, Kotak Mahindra Bank, and IndusInd Bank)

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB	(5) ST Borrowing from NPB	(6) LT Borrowing from NPB
SAR_{t-1}	-0.301***	0.310***			0.115	
	(0.073)	(0.101)			(0.077)	
LAR_{t-1}			-0.373***	0.481***		0.311**
			(0.113)	(0.164)		(0.143)
$Leverage_{t-1}$	-0.015	0.016	0.009	0.074	-0.005	-0.034**
	(0.012)	(0.036)	(0.017)	(0.056)	(0.009)	(0.017)
ROA_{t-1}	0.014	0.049**	0.038**	-0.022	0.024*	0.028
	(0.012)	(0.023)	(0.015)	(0.021)	(0.012)	(0.021)
$Tangibility_{t-1}$	-0.037	-2.145***	0.493	-0.853	0.371	-0.093
	(0.404)	(0.634)	(0.424)	(0.678)	(0.418)	(0.475)
$Z-score_{t-1}$	0.027	-0.099	-0.024	-0.088	-0.086**	-0.095
	(0.040)	(0.063)	(0.041)	(0.072)	(0.040)	(0.067)
$Logasset_{t-1}$	-0.215**	-0.448***	-0.097	-0.527***	-0.023	-0.095
	(0.088)	(0.126)	(0.087)	(0.124)	(0.054)	(0.067)
Constant	2.944***	1.840	3.098***	1.672	-0.609	0.404
	(0.884)	(1.142)	(0.999)	(1.053)	(0.801)	(1.381)
Firm-years	649	444	371	266	1260	532
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.254	0.332	0.184	0.268	0.104	0.118

Table 6: Role of Collateral and Riskiness of Lending

The table shows the results of baseline re-estimation for secured and unsecured borrowings. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed secured loans from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the secured borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. All models have been controlled for industry and year fixed effects. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. Models in columns (5)-(6) do the same analysis for unsecured ST borrowings from banks. Number of observations is quite low for these estimations since most of the lending is secured lending.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB	(5) ST Borrowing from PSB	(6) ST Borrowing from PB
SAR_{t-1}	-0.180***	0.231***			-0.201**	0.494***
	(0.034)	(0.073)			(0.079)	(0.184)
LAR_{t-1}			-0.255***	0.332***		
			(0.058)	(0.111)		
$Leverage_{t-1}$	-0.005	0.002	-0.013	0.014	0.015	-0.098
	(0.006)	(0.021)	(0.010)	(0.019)	(0.012)	(0.079)
ROA_{t-1}	0.007	0.021*	0.013	-0.028*	0.019	-0.004
	(0.006)	(0.012)	(0.011)	(0.017)	(0.019)	(0.033)
$Tangibility_{t-1}$	-0.251	-1.440***	0.087	-1.266**	-0.593	-4.831*
	(0.208)	(0.443)	(0.284)	(0.519)	(0.583)	(2.554)
$Z-score_{t-1}$	0.015	0.001	-0.01	-0.003	-0.036	0.280**
	(0.021)	(0.035)	(0.030)	(0.043)	(0.060)	(0.116)
$Logasset_{t-1}$	-0.424***	-0.433***	-0.370***	-0.465***	-0.349***	-0.288*
	(0.048)	(0.075)	(0.057)	(0.097)	(0.098)	(0.159)
Constant	2.960***	1.580*	3.680***	1.679*	4.441***	-2.346
	(0.613)	(0.923)	(0.883)	(0.932)	(1.266)	(1.699)
Firm-years	3067	1557	1052	515	539	188
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.273	0.289	0.257	0.251	0.242	0.485

Table 7: Baseline estimation controlling for Loan amount

The table shows the results of the baseline re-estimation with borrowed amount as an additional control. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB
SAR_{t-1}	-0.176***	0.237***		
	(0.034)	(0.073)		
LAR_{t-1}			-0.245***	0.285***
			(0.046)	(0.082)
$Shorttermamount_t$	0.024***	-0.028		
	(0.008)	(0.065)		
$Longtermincrementalamountt_t$			0.022	-0.033
			(0.016)	(0.059)
$Leverage_{t-1}$	-0.006	0.003	-0.003	-0.004
	(0.006)	(0.022)	(0.007)	(0.014)
ROA_{t-1}	0.007	0.021*	0.012	-0.029**
	(0.006)	(0.012)	(0.008)	(0.015)
$Tangibility_{t-1}$	-0.262	-1.519***	0.082	-1.130***
	(0.209)	(0.440)	(0.226)	(0.420)
$Z-score_{t-1}$	0.016	-0.009	0.002	-0.017
	(0.021)	(0.033)	(0.027)	(0.041)
$Logasset_{t-1}$	-0.476***	-0.417***	-0.367***	-0.469***
	(0.048)	(0.085)	(0.046)	(0.083)
$Constant$	3.329***	1.512	3.604***	1.915**
	(0.618)	(0.982)	(0.850)	(0.823)
Firm-years	3091	1584	1670	985
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.279	0.292	0.229	0.265

Table 8: Sectoral preferences and Lending risk

The table shows the results of the estimation based on Equation 2 controlling for any sectoral preference. We also interact the key explanatory variable with sectoral preference dummy to understand the factors driving the baseline results. The dependent variable (columns (1), (3), (5) and (7)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2), (4), (6) and (8), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2) and (5)-(6)) and LT (columns (3)-(4) and (7)-(8)) maturities are evaluated separately. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. The columns (1)-(4) do not have the interaction term to gauge the sectoral effects. However, columns (5)-(8) have the relative riskiness of the sectors too.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ST	ST	LT	LT	ST	ST	LT	LT
	Borrowing from PSB	Borrowing from PB	Borrowing from PSB	Borrowing from PB	Borrowing from PSB	Borrowing from PB	Borrowing from PSB	Borrowing from PB
SAR_{t-1}	-0.175***	0.221***			-0.191**	0.360***		
	(0.035)	(0.078)			(0.092)	(0.136)		
LAR_{t-1}			-0.252***	0.235**			-0.449***	0.704***
			(0.049)	(0.095)			(0.112)	(0.223)
$Manufacturing$	0.665**	-0.914**	0.335	-1.146**	0.599	-0.094	-0.419	1.372
	(0.260)	(0.455)	(0.269)	(0.494)	(0.446)	(0.837)	(0.500)	(1.133)
$Manufacturing$* $Score_{t-1}$					0.017	-0.182	0.218*	-0.659***
					(0.094)	(0.149)	(0.119)	(0.247)
$Leverage_{t-1}$	-0.006	0.006	-0.002	-0.027	-0.006	0.005	-0.002	-0.026
	(0.006)	(0.018)	(0.007)	(0.024)	(0.006)	(0.019)	(0.007)	(0.021)
ROA_{t-1}	0.006	0.021*	0.014	-0.029*	0.006	0.022*	0.013	-0.023
	(0.005)	(0.012)	(0.008)	(0.015)	(0.005)	(0.012)	(0.009)	(0.015)
$Tangibility_{t-1}$	-0.316	-1.462***	0.049	-1.429***	-0.315	-1.509***	0.061	-1.524***
	(0.209)	(0.446)	(0.233)	(0.467)	(0.209)	(0.444)	(0.234)	(0.441)
$Z-score_{t-1}$	0.011	0.002	-0.003	0.001	0.011	0.004	-0.002	0.003
	(0.021)	(0.032)	(0.027)	(0.039)	(0.021)	(0.032)	(0.028)	(0.041)
$Logasset_{t-1}$	-0.427***	-0.449***	-0.341***	-0.471***	-0.427***	-0.449***	-0.343***	-0.484***
	(0.050)	(0.078)	(0.050)	(0.081)	(0.050)	(0.078)	(0.050)	(0.083)
$Constant$	2.567***	2.074**	3.409***	2.234***	2.629***	1.459	4.324***	0.157
	(0.618)	(0.929)	(0.869)	(0.853)	(0.685)	(1.152)	(0.937)	(1.289)
Firm-years	2875	1477	1502	881	2875	1477	1502	881
Industry Effects	No	No	No	No	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.267	0.300	0.202	0.304	0.267	0.303	0.204	0.326

Table 9: Relationship lending and Lending risk

The table shows the results of the estimation based on Equation 2 with past borrowing relationship as additional control. The interaction of the relationship variable and the rating score is estimated to understand the risk preference under the influence of relationship lending. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from a PB. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. The past borrowing dummy takes value 1 if the firm has borrowed at least once in the last 3 years.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB
SAR_{t-1}	-0.166***	0.271***		
	(0.043)	(0.089)		
LAR_{t-1}			-0.203***	0.293***
			(0.058)	(0.109)
$PSBBS_{t-1}$	2.671***			
	(0.288)			
$PSBBS_{t-1}$*SAR_{t-1}	-0.04			
	(0.070)			
$PBBS_{t-1}$		5.725***		
		(1.336)		
$PBBS_{t-1}$*SAR_{t-1}		-0.561**		
		(0.276)		
$PSBBL_{t-1}$			1.844***	
			(0.357)	
$PSBBL_{t-1}$*LAR_{t-1}			0.071	
			(0.094)	
$PSBBL_{t-1}$				1.56
				(1.227)
$PBBL_{t-1}$*LAR_{t-1}				0.248
				(0.290)
$Leverage_{t-1}$	-0.009	-0.012	-0.009	0.001
	(0.009)	(0.048)	(0.010)	(0.012)
ROA_{t-1}	0.007	0.009	0.01	-0.035
	(0.007)	(0.012)	(0.012)	(0.022)
$Tangibility_{t-1}$	-0.154	-1.368**	0.16	-2.130***
	(0.242)	(0.572)	(0.241)	(0.527)
$Z-score_{t-1}$	0.002	0.036	0.008	-0.022
	(0.031)	(0.050)	(0.035)	(0.077)
$Logasset_{t-1}$	-0.328***	-0.466***	-0.393***	-0.472***
	(0.048)	(0.085)	(0.046)	(0.078)
$Constant$	0.387	1.386	3.256***	2.419**
	(0.592)	(0.992)	(0.684)	(0.986)
Firm-years	1955	927	1354	640
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.548	0.609	0.407	0.457

Table 10: Political Influences and lending decisions – Long term borrowings

The table shows the influence of political connectedness of a borrower firm on lending decisions of the bank types. The dependent variable used in columns (1)-(4) is a dummy which takes the value of 1 if the firm has borrowed long term loans exclusively from the PSBs in the current year and 0 if the firm has borrowed from the PBs exclusively or both from the PSBs and the PBs in the same year. In columns (5)-(8), it is a dummy which takes the value of 1 if the firm has borrowed long term loans exclusively from the PBs in the current year and 0 if the firm has borrowed from PSBs exclusively or both from the PSBs and the PBs in the same year. PIP takes the value one if the firm is potentially benefited by the political influences with the previous ruling regime as per the event study detailed in the paper and 0 otherwise. PIC takes the value one if the firm is potentially benefited by the political influences with the current ruling regime and 0 otherwise. All models have been controlled for industry and year fixed effects. Standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
*PIP*PreviousRegime*	**0.446*****		-0.859		**0.600*****		1.584	
	(0.151)		(0.662)		(0.218)		(1.018)	
*PIC*PreviousRegime*		**-0.509*****		-0.706		0.064		-3.947*
		(0.152)		(0.542)		(0.191)		(2.038)
CurrentRegimeDummy	-0.061	-0.088	0.687**	0.906**	0.163	0.076	-0.508	-0.135
	(0.089)	(0.092)	(0.314)	(0.373)	(0.143)	(0.143)	(0.899)	(0.966)
*PIP*CurrentRegime*	-0.284		**-3.505****		-0.442		2.087	
	(0.252)		(1.713)		(0.362)		(1.482)	
*PIC*CurrentRegime*		0.035		-0.926		0.17		3.635
		(0.197)		(0.794)		(0.229)		(2.337)
$PIP*LAR_{t-1}*PreviousRegime$			0.243				-0.237	
			(0.200)				(0.310)	
$PIC*LAR_{t-1}*PreviousRegime$				0.101				**1.019****
				(0.140)				(0.438)
$PIP*LAR_{t-1}*CurrentRegime$			**0.897****				-0.58	
			(0.424)				(0.374)	
$PIC*LAR_{t-1}*CurrentRegime$				0.212				**-0.748**
				(0.196)				(0.499)
$LAR_{t-1}*CurrentRegime$			-0.176**	-0.220**			0.277	0.199
			(0.077)	(0.093)			(0.197)	(0.222)
$LAR_{t-1}*PreviousRegime$			-0.171***	-0.168***			0.208	0.08
			(0.058)	(0.062)			(0.135)	(0.137)
$Leverage_{t-1}$			-0.002	-0.004			-0.026	-0.02
			(0.011)	(0.011)			(0.024)	(0.026)
$LnAsset_{t-1}$			-0.345***	-0.333***			-0.352**	-0.431***
			(0.059)	(0.056)			(0.103)	(0.112)
ROA_{t-1}			0.009	0.009			-0.012	-0.007
			(0.010)	(0.009)			(0.025)	(0.024)
$Tangibility_{t-1}$			0.201	0.138			-1.445**	-1.508***
			(0.278)	(0.274)			(0.616)	(0.584)
$Zscore_{t-1}$			-0.004	-0.006			0.008	-0.016
			(0.032)	(0.030)			(0.043)	(0.038)
Constant	-0.102	-0.093	3.345***	3.266***	-1.127***	-1.100***	1.332	2.599**
	(0.421)	(0.421)	(0.967)	(0.945)	(0.401)	(0.400)	(1.120)	(1.171)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-years	2108	2108	1285	1285	1624	1624	529	529
Pseudo R^2	0.102	0.107	0.21	0.212	0.145	0.133	0.232	0.247

Table 11: Political Influences and lending decisions – Short term borrowings

The table shows the influence of political connectedness of a borrower firm on lending decisions of the bank types.The dependent variable used in columns (1)-(4) is a dummy which takes the value of 1 if the firm has borrowed short term loans exclusively from the PSBs in the current year and 0 if the firm has borrowed from PBs exclusively or both from the PSBs and the PBs in the same year. In columns (5)-(8), it is a dummy which takes the value of 1 if the firm has borrowed long term loans exclusively from the PBs in the current year and 0 if the firm has borrowed from the PSBs exclusively or both from the PSBs and the PBs in the same year. PIP takes the value one if the firm is potentially benefited by the political influences with the previous ruling regime as per the event study detailed in the paper and 0 otherwise. PIC takes the value one if the firm is potentially benefited by the political influences with the current ruling regime and 0 otherwise. All models have been controlled for industry and year fixed effects. Standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
*PIP*PreviousRegime*	**0.299*** **		-0.482		**0.266***		0.447	
	(0.104)		(0.502)		(0.147)		(1.100)	
*PIC*PreviousRegime*		**-0.418*** **		-0.839**		**-0.259***		-0.465
		(0.102)		(0.407)		(0.142)		(1.311)
CurrentRegimeDummy	-0.069*	-0.072*	0.057	0.018	0.347***	0.329***	2.440***	1.847***
	(0.038)	(0.039)	(0.212)	(0.215)	(0.063)	(0.062)	(0.663)	(0.600)
*PIP*CurrentRegime*	0.008		**-0.976**		-0.077		**-1.542***	
	(0.087)		(0.601)		(0.107)		(0.862)	
*PIC*CurrentRegime*		0.032		0.084		0.015		1.728
		(0.081)		(0.545)		(0.155)		(1.800)
$PIP*SAR_{t-1}*PreviousRegime$			0.183				-0.067	
			(0.145)				(0.246)	
$PIC*SAR_{t-1}*PreviousRegime$				0.127				0.125
				(0.094)				(0.273)
$PIP*SAR_{t-1}*CurrentRegime$			**0.331****				0.262	
			(0.150)				(0.241)	
$PIC*SAR_{t-1}*CurrentRegime$				-0.029				-0.35
				(0.125)				(0.390)
$SAR_{t-1}*CurrentRegime$			-0.040	-0.022			-0.347***	-0.234**
			(0.046)	(0.048)			(0.130)	(0.117)
$SAR_{t-1}*PreviousRegime$			-0.190***	-0.200***			0.475***	0.445***
			(0.040)	(0.043)			(0.103)	(0.108)
$Leverage_{t-1}$			-0.005	-0.006			0.007	0.009
			(0.007)	(0.007)			(0.022)	(0.023)
$LnAsset_{t-1}$			-0.433***	-0.412***			-0.523***	-0.530***
			(0.057)	(0.056)			(0.098)	(0.099)
ROA_{t-1}			0.005	0.007			0.032*	0.03
			(0.006)	(0.006)			(0.019)	(0.019)
$Tangibility_{t-1}$			-0.179	-0.238			-2.397***	-2.459***
			(0.247)	(0.248)			(0.614)	(0.610)
$Zscore_{t-1}$			0.032	0.027			-0.005	0.001
			(0.024)	(0.024)			(0.041)	(0.040)
Constant	-0.374	-0.288	2.976***	2.900***	-1.186***	-1.127***	1.229	1.385
	(0.302)	(0.308)	(0.672)	(0.657)	(0.325)	(0.322)	(1.105)	(1.085)
Industry Effects Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-years	8187	8187	2451	2451	6992	6992	1104	1104
Pseudo R^2	0.082	0.085	0.259	0.26	0.11	0.11	0.367	0.367

Table 12: Business Group Affiliation and lending risk

The table shows the results of the baseline estimation with additional control for business group affiliation of the borrower. Also, we interact the affiliation dummy with the key explanatory variable to estimate the effects of group affiliation on riskiness. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB
SAR_{t-1}	-0.175***	0.185**		
	(0.041)	(0.080)		
LAR_{t-1}			-0.268***	0.225**
			(0.057)	(0.104)
BGA	0.205	-1.258**	-0.149	-0.64
	(0.260)	(0.618)	(0.338)	(0.792)
$Creditrating * BGA$	-0.019	0.205	0.047	0.18
	(0.059)	(0.131)	(0.085)	(0.189)
$Leverage_{t-1}$	-0.005	0.004	-0.002	-0.004
	(0.006)	(0.018)	(0.007)	(0.014)
ROA_{t-1}	0.007	0.019*	0.014	-0.027*
	(0.005)	(0.011)	(0.008)	(0.014)
$Tangibility_{t-1}$	-0.298	-1.598***	0.089	-1.122***
	(0.210)	(0.452)	(0.227)	(0.411)
$Z-score_{t-1}$	0.019	-0.006	-0.002	-0.009
	(0.021)	(0.033)	(0.027)	(0.041)
$Logasset_{t-1}$	-0.440***	-0.420***	-0.344***	-0.489***
	(0.049)	(0.072)	(0.049)	(0.075)
$Constant$	2.973***	1.884**	3.535***	2.223***
	(0.610)	(0.902)	(0.863)	(0.824)
Firm-years	3109	1592	1670	985
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.276	0.300	0.228	0.267

Table 13: Promoter Pledge of Shares and lending risk

The table shows the results of the re-estimation of baseline specification with promoter pledge of shares dummy variable as an additional risk proxy. Also, we interact this dummy variable with the rating score to estimate the impact on lending decisions by the PSBs and the PBs with this additional information. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from the PBs. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors, clustered at firm level are presented in the parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. All the estimations control for industry and year fixed effects.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB
SAR_{t-1}	-0.150***	0.232**		
	(0.052)	(0.101)		
LAR_{t-1}			-0.204**	-0.027
			(0.082)	(0.139)
$Pledge$	0.273	-2.815***	-0.100	-2.937**
	(0.267)	(0.731)	(0.361)	(1.366)
SAR_{t-1}*$Pledge$	-0.046	0.522***		
	(0.069)	(0.154)		
LAR_{t-1}*$Pledge$			0.013	0.699**
			(0.098)	(0.339)
$Leverage_{t-1}$	-0.003	0.025*	0.002	-0.023
	(0.006)	(0.012)	(0.008)	(0.024)
ROA_{t-1}	0.006	0.032*	0.001	-0.009
	(0.006)	(0.019)	(0.010)	(0.023)
$Tangibility_{t-1}$	-0.250	-1.357**	0.064	-1.172**
	(0.229)	(0.553)	(0.253)	(0.483)
$Z-score_{t-1}$	0.037	-0.012	0.001	0.032
	(0.023)	(0.041)	(0.029)	(0.043)
$Logasset_{t-1}$	-0.445***	-0.578***	-0.355***	-0.378***
	(0.058)	(0.097)	(0.059)	(0.106)
$Constant$	2.393***	1.803	3.629***	2.514*
	(0.659)	(1.077)	(0.969)	(1.144)
Firm-years	2194	1024	1262	613
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.278	0.389	0.233	0.272

Table 14: Baseline estimation with Ordered Probit model

The table shows the results of an alternate estimation technique to evaluate whether the riskiness of the borrower follows an ordered pattern. The dependent variable use in columns (1) and (3) is an ordinal variable which takes the value of 1 if the firm has borrowed short term loans in the current year from the PBs, 2 if the borrowing is from both the PB and the PSB and 3 if the borrowing is from the PSBs exclusively. A similar variable is used for columns (2) and (4) for long term borrowings. Models (3) and (4) use the lag of short term borrowing or long term borrowing as additional controls. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST Borrowing	(2) LT Borrowing	(3) ST Borrowing	(4) LT Borrowing
SAR_{t-1}	-0.176***		-0.141***	
	(0.029)		(0.028)	
LAR_{t-1}		-0.232***		-0.200***
		(0.041)		(0.052)
$STborrowing_{t-1}$			2.818***	
			(0.124)	
$LTborrowing_{t-1}$				0.487***
				(0.143)
$Leverage_{t-1}$	-0.004	-0.002	-0.004	-0.002
	(0.005)	(0.005)	(0.005)	(0.006)
ROA_{t-1}	0.001	0.015*	-0.002	0.005
	(0.005)	(0.009)	(0.006)	(0.011)
$Tangibility_{t-1}$	-0.066	0.289	0.188	0.219
	(0.185)	(0.207)	(0.173)	(0.246)
$Z-score_{t-1}$	0.014	0.001	0.006	-0.002
	(0.020)	(0.024)	(0.022)	(0.027)
$Logasset_{t-1}$	-0.263***	-0.186***	-0.091**	-0.142***
	(0.035)	(0.036)	(0.035)	(0.041)
$Cut1 : Constant$	-3.952***	-3.959***	-3.041***	-3.149**
	(0.885)	(1.133)	(0.920)	(1.308)
$Cut2 : Constant$	-1.034	-1.282	0.489	-0.543
	(0.856)	(1.121)	(0.890)	(1.286)
Firm-Year	3324	1830	3134	1053
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.223	0.185	0.480	0.177

A Appendix

Table A1: Average Credit Rating by Bank ownership type

The table provides SAR and LAR for firms by ownership type of banks. No data on banks is for firms which don't report the active banking relationships that the firm has. Firms borrowing exclusively from PSBs are consistently the least rated (in means) firms.

LAR	2011	2012	2013	2014	2015	2016
Exclusive PSB	3.49	3.28	3.27	3.22	3.27	3.29
Both PSBs and PBs	4.23	4.10	4.03	4	4.09	4.11
Exclusive PB	4.46	4.25	4.16	4.19	4.25	4.1
Unidentified	3.59	3.54	3.49	3.58	3.7	3.95
SAR						
Exclusive PSB	3.9	3.46	3.36	3.32	3.3	3.32
Both PSBs and PBs	4.89	4.63	4.52	4.41	4.47	4.48
Exclusive PB	5.31	4.81	4.74	5.05	4.87	4.38
Unidentified	4.12	3.86	3.72	3.81	4.03	4.33

Table A2: Description of Variables

Variable	Description
PSBBS	Dummy variable which takes the value of one if the firm has taken any short term loans exclusively from the PSBs in any year and zero if it has taken short term loans exclusively from the PBs or from both the PSBs and the PBs.
PSBBL	Follows the same convention as PSBBS for long-term loans.
PBBS	Dummy variable which takes the value one if the firm has taken short term loans exclusively from the PBs in any year and zero if it has taken short term loans from the PSBs or from both the PSBs and the PBs.
PBBL	Follows the same convention as PBBS for long-term loans.
BGA	Dummy variable which takes the value 1 if the firm has a business group affiliation and 0 otherwise. We obtained the group affiliation information from the Prowess database.
PIP	Dummy variable which takes the value of 1 if the firm is potentially benefited from the influences of the incumbent regime until 2014 and 0 otherwise. Political influence is measured using the event study methodology described in subsubsection 3.2.3.
PIC	Dummy variable which takes the value of 1 if the firm is the perceived to benefit from the incoming regime in 2014 and 0 otherwise. Political influence is measured using the event study methodology described in subsubsection 3.2.3
SAR	Average credit rating of the firm given by the rating agencies in a year for short term loans or working capital loans. The rating is coded from 1-6 with 1 being the higher risk and 6 being the lowest risk.
LAR	Average credit rating of the firm given by the rating agencies in a year for Long term loans. The rating is coded from 1-6 with 1 being the higher risk and 6 being the lowest risk.
Leverage	Ratio of total borrowing of the firm to the book value of equity.
ROA	Ratio of the profit after tax to the average assets of the firm
Tangibility	Ratio of fixed assets to total assets
Z-score	Altman z-score for emerging market (Altman, 2000) and uses the following formula to arrive at the score: 3.25 + 6.56 *(Net Working capital/Total assets) + 3.26*(Retained earnings / Total assets) + 6.72*(PBITDA/Total assets) + 1.05*(Book value of equity/ Total liabilities). The score gives an indication of the propensity of a firm to be in distress in the future. Lower the score, higher the chances to be in distress.
Log Asset	Natural logarithm of the total assets of a firm (in million INR).

Table A3: Pairwise Correlations of the key variables

	PSBBS	PBBS	BGA	PIP	PIC	SAR	LAR	Leverage	ROA	Tangibility	Z-score	Ln Asset
PSBBS	1											
PBBS	-0.13	1										
BGA	-0.17	-0.06	1									
PIP	0.11	0.04	-0.12	1								
PIC	-0.15	-0.04	0.08	-0.13	1							
SAR	-0.33	0.05	0.28	-0.12	0.08	1						
LAR	-0.29	0.04	0.24	-0.1	0.07	0.94	1					
Leverage	0.01	-0.04	0	-0.01	0.01	-0.2	-0.21	1				
ROA	-0.06	0.07	0.01	-0.02	0	0.42	0.45	-0.12	1			
Tangibility	0.09	-0.09	0.1	-0.01	-0.09	-0.07	-0.07	0.02	-0.1	1		
Z-score	0.02	0.1	-0.08	0.01	-0.06	0.3	0.34	-0.19	0.64	-0.21	1	
Ln Asset	-0.45	-0.09	0.39	-0.15	0.25	0.42	0.33	0.02	0.04	-0.12	-0.12	1

Table A4: Marginal effects of SAR and LAR in Lender Type estimations

The table indicates the marginal effect of SAR, columns (1)-(2) and LAR, columns (3)-(4). '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST Borrowing from PSB	(2) ST Borrowing from PB	(3) LT Borrowing from PSB	(4) LT Borrowing from PB
At means Marginal effects - Baseline	-0.059***	0.011***	-0.086***	0.015***
	(0.011)	(0.004)	(0.016)	(0.005)
Average Marginal Effects - Baseline	-0.047***	0.022***	-0.070***	0.027***
	(0.009)	(0.007)	(0.013)	(0.008)
At means Marginal effects - Without D-SIBs	-0.112***	0.041***	-0.153***	0.097***
	(0.028)	(0.014)	(0.045)	(0.032)
Average Marginal Effects - Without D-SIBs	-0.083***	0.048***	-0.123***	0.099***
	(0.020)	(0.017)	(0.034)	(0.032)

Table A5: Baseline estimation with average credit rating

The table shows of the results of the baseline specification using average rating rather than maturity specific rating. The dependent variable (columns (1) and (3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2) and (4), where it takes value of 1 when the borrowing is exclusively from a PB. Estimations for ST (columns (1)-(2)) and LT (columns (3)-(4)) maturities are evaluated separately. Robust standard errors, clustered at firm level are presented in the parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively. All the estimations control for industry and year fixed effects.

	(1) ST borrowing from PSB	(2) ST borrowing from PB	(3) LT borrowing from PSB	(4) LT borrowing from PB
AR_{t-1}	-0.218***	0.250***	-0.238***	0.264***
	(0.027)	(0.050)	(0.040)	(0.076)
$Leverage_{t-1}$	0.000	0.003	0.000	-0.014
	(0.004)	(0.007)	(0.006)	(0.016)
ROA_{t-1}	0.002	0.006	0.012	-0.035***
	(0.004)	(0.007)	(0.008)	(0.012)
$Tangibility_{t-1}$	-0.127	-0.638***	0.157	-0.993***
	(0.138)	(0.222)	(0.212)	(0.353)
$Z-score_{t-1}$	0.028**	-0.001	0.015	0.003
	(0.012)	(0.019)	(0.025)	(0.035)
$Logasset_{t-1}$	-0.392***	-0.301***	-0.315***	-0.441***
	(0.030)	(0.041)	(0.046)	(0.066)
$Constant$	3.536***	0.256	3.736***	1.168*
	(0.432)	(0.506)	(0.634)	(0.682)
Firm-years	6651	5518	1874	1157
Industry Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.248	0.197	0.229	0.232

Table A6: Baseline estimations with firm Fixed Effects

The table shows the baseline estimation with additional controls for firm fixed effects. The dependent variable (columns (1)-(3)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (4) and (5), where it takes value of 1 when the borrowing is from both the PSBs and the PBs (4) and exclusively from the PB (5). Estimations for ST (columns (1)) and both ST/LT borrowings (columns (2)-(5)) maturities are evaluated separately. Column (3) controls for firm fixed effects using a panel linear probability model (LPM). All other columns use a panel logit fixed effects model. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST Borrowing from PSB	(2) Borrowing from PSB	(3) Borrowing from PSB (LPM)	(4) Borrowing from PSB/PB	(5) Borrowing from PB
SAR_{t-1}	-0.625***				
	(0.208)				
AR_{t-1}		-0.530***	-0.023***	0.579***	1.999**
		(0.135)	(0.005)	(0.139)	(0.853)
$Leverage_{t-1}$	0.011	-0.001	0.000	0.002	1.268**
	(0.077)	(0.017)	(0.001)	(0.017)	(0.494)
ROA_{t-1}	0.020	0.024	0.001**	-0.023	0.017
	(0.021)	(0.015)	(0.001)	(0.015)	(0.051)
$Tangibility_{t-1}$	1.141	1.077	0.077*	-0.471	3.074
	(1.530)	(0.972)	(0.041)	(1.032)	(3.381)
$Z-score_{t-1}$	-0.047	0.001	-0.003	-0.008	1.353***
	(0.088)	(0.051)	(0.002)	(0.053)	(0.415)
$Logasset_{t-1}$	0.180	-0.577*	-0.050***	0.750**	1.970
	(0.562)	(0.319)	(0.014)	(0.332)	(1.701)
$Constant$	-	-	0.868***	-	-
			(0.122)		
Firm-years	347	953	6994	895	130
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes
R^2	-	-	0.016	-	-
Chi^2	22.658	53.722	-	46.307	40.675
P-value	0.020	0.000	-	0.000	0.000

Table A7: Exclusion of Observable Risk Proxies and Exclusion of Firms in Default

In this table, we re-estimate the baseline specification by excluding other closely related risk proxies (columns (1)-(4)) and by excluding the firms in default (columns (5)-(8)). The dependent variable (columns (1), (3), (5) and (7)) is a dummy which takes value of 1 if a firm has exclusively borrowed from the PSBs in any year and 0 if it has borrowed exclusively from the PBs or both from the PSBs and the PBs. A similar dummy variable is employed in columns (2), (4), (6) and (8), where it takes value of 1 when the borrowing is exclusively from a PB. Estimations for ST (columns (1)-(2) and (5)-(6)) and LT (columns (3)-(4) and (7)-(8)) maturities are evaluated separately. All models are controlled for industry and year fixed effects. Robust standard errors clustered at firm level are presented in parenthesis. '***', '**' and '*' indicates significance at 1%, 5% and 10% respectively.

	(1) ST from PSB	(2) ST from PB	(3) LT from PSB	(4) LT from PB	(5) ST from PSB	(6) ST from PB	(7) LT from PSB	(8) LT from PB
SAR_{t-1}	-0.168***	0.231***			-0.197***	0.228***		
	(0.033)	(0.074)			(0.039)	(0.079)		
LAR_{t-1}			-0.245***	0.279***			-0.281***	0.201**
			(0.045)	(0.081)			(0.061)	(0.100)
ROA_{t-1}	0.009**	0.020*	0.013*	-0.030**	0.001	0.019*	0.012	-0.029*
	(0.004)	(0.011)	(0.008)	(0.013)	(0.007)	(0.011)	(0.009)	(0.015)
$Tangibility_{t-1}$	-0.283	-1.501***	0.088	-1.104***	-0.243	-1.505***	0.011	-1.133***
	(0.204)	(0.445)	(0.225)	(0.414)	(0.218)	(0.441)	(0.236)	(0.405)
$Logasset_{t-1}$	-0.436***	-0.429***	-0.342***	-0.474***	-0.420***	-0.422***	-0.316***	-0.456***
	(0.047)	(0.072)	(0.046)	(0.079)	(0.049)	(0.074)	(0.048)	(0.080)
$Leverage_{t-1}$					-0.006	0.000	0.002	-0.006
					(0.008)	(0.023)	(0.008)	(0.015)
$Z-score_{t-1}$					0.025	-0.006	0.002	-0.014
					(0.023)	(0.033)	(0.026)	(0.041)
Constant	3.088***	1.567*	3.415***	1.871**	2.930***	1.573*	3.426***	2.172***
	(0.582)	(0.824)	(0.825)	(0.766)	(0.615)	(0.912)	(0.858)	(0.806)
Firm-years	3109	1592	1670	985	2915	1515	1542	919
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.274	0.290	0.227	0.265	0.281	0.283	0.229	0.258