

Bank Involvement in Firm Management, Panacea or a Pain?

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Abstract

We investigate the role of bank nominee directors in influencing firm governance in emerging markets. We conduct our analysis using Indian firms because of the presence of bank nominees on a large number of healthy firms and the availability of detailed data. Firms with a bank nominee are larger, have low market to book ratio, low investment and high leverage. Such firms are more likely to belong to business groups with low insider holding and high institutional shareholding. Firms with a bank nominee do less investments, pay less dividends and have lower market to book ratio. Overall, there is both a bright and a dark side to having bankers on board. While bankers monitor firms prone to agency conflicts between inside and outside shareholders, bankers also worsen agency problems between lenders and equity holders.

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1 Introduction

Emerging economies are characterized by weak legal and regulatory institutions that offer inadequate protection to outside investors. Firms in these countries typically have concentrated ownership structures with control in the hands of a few large shareholders (La Porta et al. 1998). The inside block holders also exercise disproportionate control through complex ownership structures involving cross-holding and pyramiding (Claessens et al., 2000). Given the concentrated ownership structures, the stocks of most firms are illiquid and there is also an absence of an active market for corporate control. The weakness of the usual mechanisms of corporate governance has resulted in a search for alternative governance mechanisms that may sustain external finance in such environments. The literature highlights the role of reputation concerns and the need to finance future investment opportunities (Doidge, Karyoli, and Stultz, 2004) and outside blockholders (Laeven and Levine, 2008) in reducing agency conflicts in such environments. In this paper, we study the role of lenders in reducing insider-outsider agency conflicts in an emerging market characterized by weak investor protection.

The role of debt in reducing agency problems between managers and shareholders is well-known (Jensen (1986), Hart and Moore (1995)). Debt can discipline managers either through the threat of bankruptcy or through transfer of control to lenders on violation of financial covenants (Nini et al (2010)). These mechanisms can be effective only with strong bankruptcy laws that penalize managers and reliable accounting standards that are enforced. Unfortunately many emerging markets satisfy neither requirement. The country we study, India, has notoriously weak bankruptcy laws where firms spend more than 6 years on average in the bankruptcy court (Visaria, 2009), and the accounting quality is also patchy (see Ellul et al, 2007). Consistent with such a scenario being the norm, Harvey et al., 2004 find weak support for domestic debt as an effective tool for limiting expropriation by controlling insiders from 18 emerging markets.

In this paper, we study a more *direct* role adopted by lenders in influencing firm governance in emerging markets. We study the effectiveness of lender nominees on firm's board of directors in reducing agency costs. Having a nominee on a firm's board can help the lender

overcome weak bankruptcy laws and poor accounting information. Presence of a nominee will allow access to information over and above that conveyed by the firm's accounting statements. The nominee may also allow the lender to exercise control prior to bankruptcy.

India offers a number of advantages for our study. Banks in India frequently appoint nominees on the board of borrower firms. Of the 3,751 firms in our sample, 760 had a bank nominee on their board for at least one year during our sample period. Facilitating bank involvement in firm management outside bankruptcy, India does not have laws similar to the "Equitable subordination laws" in the U.S. that limit lender control outside bankruptcy (Kroszner and Strahan (2001)). Aiding the generalizability of our findings, India is also a typical emerging market on many dimensions. It was ranked 51st in the list of 139 countries in the Global Competitiveness Report for 2010-11, as against China at 27, Brazil at 58 and the Russian Federation at 63, reflecting similar quality of institutions at an aggregate level. India's broader financial system resembles that of many other emerging markets in that it is relatively underdeveloped and dominated by large, government-owned banks.¹ Although India has a Common law legal origin and has relatively strong securities laws, enforcement is inadequate and there is significant agency conflicts between controlling and outside shareholders (Bertrand et al (2002)). The final advantage of India is the availability of data. We have financial data on a large panel of listed and unlisted firms for the period 1994-2008. Our data also includes information on the firm's ownership structure and composition of board of directors.

We use our data to explore 3 alternative, non-mutually exclusive, hypotheses. The *Information* hypothesis highlights the benefits from access to information provided by the presence of a bank nominee. The information could improve the firm's access to debt finance by reducing problems due to adverse selection (Stiglitz and Weiss (1981)). This hypothesis predicts that small, young firms with more growth opportunities will have bankers on board. The presence of bankers on the board will be associated with greater investment, higher leverage and lower defaults. The *Monitoring* hypothesis highlights the ability of the bank nominee to better monitor managers and reduce agency problems between insiders and

¹Bank credit to GDP was 25% and market capitalization to GDP was 23% (Demirguc-Kunt and Levine, 2001), and government banks accounted for 86.3 percent of bank assets in 1992 (Source: www.rbi.org.in).

outside investors.² This predicts that firms associated with greater agency problems – the ones belonging to a business group and those with low insider ownership – are more likely to have a banker on board. The lower agency costs resulting from the bank nominee will improve firm performance and enable greater debt finance. Depending on whether the dominant agency problem is one of under-investment (Bertrand and Mullainathan (2003)), or one of over-investment (Jensen (1986)), the prediction of the *Monitoring* hypothesis on firm investment is ambiguous. Finally, the *Debt-equity agency* hypothesis highlights the potential conflicts between lenders and equity holders that might be exacerbated by the presence of a bank nominee. Since lenders prefer less risky strategies, the *Debt-equity agency* hypothesis predicts that firms with a bank nominee will have lower investments and lower dividends. While the first two hypotheses predict a higher valuation for firms with a bank nominee, the *Debt-equity agency* hypothesis predicts a lower valuation. We discuss these hypotheses in greater detail in Section 3.

We conduct two sets of tests to empirically investigate these hypotheses. In the first set we compare the characteristics of firms with and without a bank nominee while in the second set, we estimate the effect of a bank nominee on future performance. In the latter set of tests, we take care to address the endogeneity of the presence of a bank nominee on the firm’s board. We discuss this in greater detail subsequently.

We find that firms with a bank nominee are typically the larger firms with less information problems. Inconsistent with the *Information hypothesis*, such firms have lower investments, lower market to book ratio and are from industries that depend less on external finance, as measured by the Rajan and Zingales index of dependence on external finance (Rajan and Zingales, 1998). Consistent with the *Monitoring* hypothesis, we find that firms with a bank nominee are more likely to belong to a business group, have lower insider holding and higher institutional holding. Further consistent with the *Debt-Equity agency* hypothesis we find that firms with a bank nominee have higher leverage and are more likely to be in financial distress as measured by the *Altman Z-Score*.

In the next set of tests, we evaluate the effect of bank nominees on future performance.

²Becker and Stromberg (2012) find evidence of such conflict.

The performance metrics we analyze include investment, leverage, dividends, bankruptcy, and firm value. In these tests, apart from a number of time-varying control variables, we also include firm fixed effects to control for *all* observed and unobserved time invariant firm characteristics. Thus our estimates measure the correlation between the within-firm changes in the bank nominee status and changes in performance. The identifying assumption in our baseline analysis is that, conditional on the control variables employed, the presence of a bank nominee is exogenous. This assumption will be violated if any omitted variable – such as the bank’s private information about the extent of agency problems – is correlated with both the presence of a bank nominee and future firm performance or if banks appoint a nominee in anticipation of future bad performance – reverse causality. We do two sets of robustness tests to account for possible biases.

In our first robustness test, we estimate the effect of bank nominees appointed more than two years back on future firm performance. To the extent the appointment decision was made in the past, it is unlikely to be correlated with time varying omitted variables that may affect future performance. In the second set of robustness test, we explicitly control for omitted variables using a switching regression model (see Li and Prabhala (2007)). Our instrument for the presence of a bank nominee is a dummy variable that identifies the group affiliation status of the firm, *Group*. Our identifying assumption in the switching regression model is that the instrument is correlated with the presence of a bank nominee, but conditional on the presence of a bank nominee and other controls employed, does not have an independent effect on firm performance. We believe that our instrument satisfies this requirement. We discuss this in greater detail in Section 5.3.

We find that firms with a bank nominee have significantly lower investments. Our estimates are economically significant. The presence of a bank nominee is correlated with 23% lower investment in the subsequent year. The lower investments among firms with a bank nominee is inconsistent with the *Information* hypothesis, but is consistent with the *Debt-equity* agency hypothesis. We find that the lower investment is present both among firms with high and low past profitability. We also find that firms with high market to book ratio experience a greater reduction in investment levels. These results are again inconsistent with

the *Information* hypothesis. We also find that bank nominees reduce investments especially among firms affiliated with a business group. To the extent that group affiliated firms have greater agency conflicts, this evidence is consistent with the *Monitoring* hypothesis and also highlights that the dominant agency problem among group affiliated firms in India may be one of overinvestment (Jensen (1986)).

Firms with a bank nominee have significantly high leverage. The presence of a bank nominee increases a firm's leverage by 4.6 percentage points as compared to the sample average of 50.1 percentage points. Thus bank nominees enable firms to have about 9% higher leverage ratios. This evidence is consistent with the *Information* and *Monitoring* hypothesis. We find that the higher leverage occurs both for firms with high and low past profitability and firms with high and low market to book ratio. When we differentiate between group and non-group firms, we find that bank nominees are associated with a higher leverage only among group affiliated firms. This evidence is again strongly consistent with the *Monitoring* hypothesis.

Consistent with the *Debt-equity* agency hypothesis, we find that bank nominees are associated with significantly lower future dividend payouts. Firms with a bank nominee reduce dividends by 10% as compared to the sample average. Bank nominees reduce dividends especially for firms with high past profitability and those with high leverage. We find some weak evidence that bank nominees reduce dividends to a greater extent for non-group firms.

Interestingly, firms with a bank nominee have a higher bankruptcy probability as compared to firms without a bank nominee. But when we focus on nominees that were appointed two years back, we no longer find a higher bankruptcy probability among firms with a nominee. This highlights that the positive association is because of banks appointing a nominee to the board of financially distressed firms in anticipation of imminent bankruptcy. We also find that bankers are more likely to appoint a nominee to the board of financial distressed non-group firms. This indicates that banks are more concerned about loss of value from these firms, especially when they are financially distressed.

In our final set of tests, we estimate the effect of a bank nominee on firm value. We follow prior literature and use *Market to book* ratio as our measure of firm value and find that firms

with a bank nominee are associated with lower market to book ratios. This evidence is strongly consistent with the *Debt-equity* agency hypothesis. The lower *Market to book* of firms with a nominee is especially among firms with high prior profitability and those that belong to a business group.

We find that our results are robust to employing the switching regression model to control for the endogeneity of the presence of a bank nominee. Overall our evidence is consistent with both the *Monitoring* and the *Debt-equity agency*.

Our research is related to the large body of work focusing on the corporate governance of firms. However, our contribution lies in extending the enquiry to direct lender involvement in firm management as a corporate governance mechanism. Besides a few papers, this question has received little attention. In the U.S. context, Kroszner and Strahan (2001) show that commercial bankers on boards are typically not from “affiliated” (i.e., banks with whom the firm has a lending relationship) banks, and are less common in firms with greater likelihood of conflict (e.g., smaller firms). These reflect legal constraints such as doctrines of lender liability and equitable subordination, which limit bankers’ role on firm boards. This may also explain why Booth and Deli (1999) do not find support for a positive role for affiliated commercial bankers on boards of their borrowing firms. Since these legal limits do not apply in India, it is conducive for understanding the costs and benefits of affiliated lender involvement in firm management.

In another paper, Guner et al (2008) find that, even among large, stable U.S. firms, the presence of affiliated commercial bankers is associated with increased lending to unconstrained firms and lower investment-cash flow sensitivity. This provides evidence of greater conflict of interest with bankers on board. However, the paper leaves unclear the firms’ motive for choosing to have these bankers. Unlike the U.S., bankers on board in India are not chosen by the firm but are appointed by the affiliated bank who has the right to appoint such nominees. Given the expected direction of flow of benefits between equity and debt, we offer a direct test of the alternative hypotheses.

A recent paper by Becker and Stromberg (2012) provides evidence of debt-equity conflict and the role of fiduciary duty of corporate directors in limiting equityholders’ ability to ex-

propriate from debtholders. Given the weak institutional environment in emerging markets, it is unlikely that fiduciary duties would have much of an impact on board behavior. In our paper, we consider the direct role of bankers on board. COntrary to their result, we find evidence of lower firm value in the presence of bankers on board, which is consistent with exacerbated debt-equity conflict.

In the context of Japan's main bank system, Kaplan and Minton (1994) and Morck and Nakamura (1999) find that poorly performing firms are more likely to have a bank representative appointed to the board, which suggests that banks do not try to restrict managerial private benefits of firms whose performance is satisfactory. In the case of German firms, Dittman et al (2010) find that bankers on board promote their own business as lenders and tend to lower firm valuation. Unlike these papers, our focus is on an emerging market, where the weak institutions and greater likelihood of cronyism make the role of banks in corporate governance potentially far more critical.

In a related paper, Ellul et al (2007) find evidence supporting the existence of conflict between family blockholder and external bondholders in an environment of weak investor protection. However, their paper does not consider a direct role for debt in corporate governance, which is the focus of our work.

The rest of the paper is organized as follows. In the next section, we provide institutional details affecting bank's position on boards in India. Section 3 develops the alternative hypotheses that we test. In Section 4, we describe the data and provide descriptive statistics. Section 5 presents our main empirical results. Section 6 concludes.

2 Institutional Background

Prior to the financial sector reforms in the 1990s, capital to industry came broadly from two categories of government-owned institutions - investment institutions and lending institutions. Investment institutions primarily included the life insurance companies (e.g., Life Insurance Corporation of India (LIC)) and a mutual fund company (Unit Trust of India (UTI)). They mobilized funds and invested them in the capital markets. The main sources

of credit, on the other hand, were public sector commercial banks (e.g., State Bank of India (SBI)) and development financial institutions (DFIs). While the commercial banks focused largely on short-term loans to agriculture, trade and services, DFIs were established to provide medium- and long-term capital to industry. In India, both banks and DFIs could also invest in the equity of companies, including their borrowers. The main DFIs were Industrial Finance Corporation of India (IFCI, established in 1948 for medium and large industrial concerns in corporate and co-operative sectors), Industrial Development Bank of India (IDBI, set up in 1964 for industrial development), and Industrial Credit and Investment Corporation of India (ICICI, set up in 1955 for private sector development).³ Most of the DFIs were set up under separate Acts of the Parliament.⁴

The financial market landscape altered with liberalization in the 1990s. The entry of private sector mutual funds and foreign institutional investors (FIIs) altered the world for the investment institutions that existed so far. Commercial banking too saw the entry and mushrooming of private banks, including foreign banks. However, the DFIs experienced the biggest changes, with gradual reduction in government support and increased exposure to competition, particularly for access to funds. Several of the DFIs have since transformed themselves into banks, e.g., ICICI Bank, IFCI Ltd. and IDBI Ltd. More importantly, these institutions now compete with commercial banks for loans across all maturities, and are no longer focused on term loans.⁵ Both banks and DFIs continue to also make large equity investments in companies. However, it is more common for them to invest through

³Other major DFIs include the Small Industries Development Bank of India (SIDBI), set up in 1990 as the principal financial institution to cater to the SME sector, the Infrastructure Development Finance Company Ltd. (IDFC) set up in 1997, and the Industrial Investment Bank of India (IIBI), which was the erstwhile Industrial Reconstruction Bank of India (IRBI). However, these DFIs have little or no exposure to equity investments in listed companies.

⁴DFIs were created in many countries in the initial stages of their development, and were instrumental in the industrialization of continental Europe, Japan and Korea. The first government-sponsored DFI was set up in the Netherlands in 1822. Between 1848-1852, France set up several DFIs including Credit Foncier and Credit Mobiliser. The Japan Development Bank fostered rapid industrialization in Japan. Immediately after independence in 1947, India took inspiration from the success of such DFIs.

⁵Between 1995 and 2005, commercial banks' share of short-term credit to industry fell from 82.5% to 52.4%, while their share of long-term credit rose from 11.6% to 37% over the same period. The share of financial institutions (not banks) in total credit fell from 24.9% in 1991 to 5.8% in 2006. [RBI reports, various issues]

their mutual fund affiliates (e.g., ICICI Bank through Prudential ICICI Mutual Fund, SBI through SBI Mutual Fund).

As far as board composition is concerned, in India at least two-thirds of the board consists of rotational directors. Permanent directors include promoters, executive directors and nominee directors of financial institutions. Nominee directors can only be withdrawn by the nominating institution. The notion of nominee directors is a feature that is unique to India. The founding Act of Parliament of each DFI stipulated that the DFI should insert two specific clauses in their loan agreements: (i) a clause for converting its loan into equity in case of default, and (ii) a "nominee director clause" which gave the DFI the right to appoint one or more directors to the board of the borrowing company. In March 1984, the Department of Economic Affairs in the Ministry of Finance issued its guidelines relating to the convertibility and nominee director appointment clauses. In particular, it specified that the IDBI, IFCI, ICICI and IRCI should create a separate department/cell with officials whose exclusive function will be to represent the DFI on the board of companies. It allowed the use of outside directors as the DFI's nominees on board where the DFI has multiple nominees. It also mentioned that nominee directors should be appointed on all MRTP companies assisted by the DFIs (as well as those non-MRTP companies that had institutional shareholdings exceeding 26 percent of company's equity or where the company is likely to become sick or the DFI's stake through equity/loan exceeds Rs. 50 million). Thus, one is likely to find nominee directors of large DFIs on boards of assisted companies or of poorly-performing companies. It is important to note that even after the financial sector reforms and change in the nature of DFIs (discussed above), DFIs' right to nominee directors effectively continued.⁶ Therefore, unlike in other countries, the appointment of DFIs is driven more by statutory obligation. It suffers less from endogeneity concerns that plague research on director appointments and resignations for other countries.

In terms of bank nominees' role, the 1984 guidelines offered an illustrative list of respon-

⁶In our sample between 1995 and 2007, conditional on being present, the number of nominees of each financial institution as a percentage of board size, averaged across firms, has not changed very much over time. However, there has been decline in the total number of nominees from most DFIs, but not from LIC or the commercial banks.

sibilities, including a focus towards repayment of DFI and government dues, firm's financial performance, all share transactions, as well as inter-corporate loans and investments and related-party transactions. However, Section 30.A of the Banking Law and Practice in India (1964) stipulated that, unlike the other directors, nominee directors would not be jointly and severally responsible to shareholders for the board's actions.

In 2000, the Securities Exchange Board of India (SEBI) added Clause 49 to the Listing Agreement between a company and the stock exchange regarding corporate governance. Most companies have not been able to meet the deadline for compliance, and the SEBI has willingly extended the deadlines multiple times. However, Clause 49 makes no significant change in the rules governing nominee directors of financial institutions.

For the purposes of our analysis, we treat nominees of all financial institutions, whether DFI, bank or investment institution, as "bank" nominees.

3 Hypotheses

We identify three hypotheses that have predictions relevant for our setting. We call these the *Information*, *Monitoring* and *Debt-equity agency* hypotheses. We now outline the hypotheses and highlight their main predictions. These hypotheses are not mutually exclusive and in our tests we estimate the extent to which they are able to explain the observed patterns.

The *Information* hypothesis emphasizes the role of bank nominees in collecting information about the firm and transmitting it to the lender. Such information acquisition will reduce the extent of information asymmetry between the lender and the firm and make external finance cheaper. This should be most beneficial for firms with greater ex ante information asymmetry and for firms with valuable investment opportunities in need of external finance. Thus, according to the *Information* hypothesis, firms with greater information problems and those in greater need of external finance are more likely to have bank nominees on their boards. In our tests, we employ firm size and firm age as proxies for the extent of firm level information asymmetry and use the characteristics of the firm's industry to estimate the need for external finance.

If bank nominees help firms access external finance, the *Information* hypothesis predicts that firms with a bank nominee should invest more, have greater leverage and a higher value. To the extent bank nominees are able to identify the “good” from “bad” firms, we expect these effects to be stronger in firms with higher past profitability and investment opportunities.

The *Monitoring* hypothesis highlights the role of bank nominees in monitoring management on behalf of external financial markets. According to the *Monitoring* hypothesis, we should observe bank nominees in firms with more agency problems. We use the extent of insider holding and group affiliation status as proxies for ex ante agency problems. We rely on prior research that shows group affiliated firms to have more agency problems than unaffiliated firms (Bertrand, Mehta, and Mullainathan (2002)). To the extent bank nominees reduce agency problems, we should observe such firms to have better performance in terms of lower bankruptcy likelihood and higher firm value. We expect these effects to be present especially among firms with greater ex ante agency problems.

The *Debt-equity agency* hypothesis highlights the agency problems between lenders and shareholders and the role of bank nominees in worsening such problems. Lenders and shareholders will have different risk preferences that arise from their different payoff structures. While lenders will prefer lower risk, equity holders will prefer greater risk. To the extent firms in financial distress have greater conflicts between lenders and equity holders, they are likely to have a bank nominee. We employ the Altman’s *Z-score* as a measure of firm financial distress. If bank nominees influence investment policy on behalf of lenders then we expect firms with bank nominees to take less risk. This is likely to manifest in lower investments and lower dividend payouts among firms with a bank nominee. To the extent bank influence in firm management prevents the firm from exploiting positive NPV investment opportunities, we expect firms with a bank nominee to have lower valuation. We expect these effects to be stronger in firms with higher leverage as such firms are more likely to face conflicts between lenders and equity holders.

4 Data and descriptive statistics

4.1 Data

We use two main data sources for our study. Our first data source, Prowess, provides annual financial information, industry affiliation, year of incorporation, group affiliation and information on the composition of firms' board of directors for all Indian firms. Apart from the directors' names and their designation, Prowess also identifies whether a director is a nominee of a lender. Prowess obtains its data from firms' annual reports filed with the Registrar of Companies, a requirement for all public limited companies under the Companies Law in India. Compiled by the Center for Monitoring Indian Economy (CMIE), Prowess is a panel of both listed and unlisted public limited companies with assets plus sales greater than 40 million Rupees (approx. \$900,000). From the firms available in Prowess, we restrict our sample to only firms that have data for more than three years. We also drop firms that are identified as government- or foreign-owned leaving between 540 to 3,036 domestic firms in our sample each year.

The second database we use is the Board for Industrial and Financial Reconstruction (BIFR) database of firm bankruptcies. We obtain data on all firms that file for bankruptcy protection with the BIFR during our sample period. We merge the bankruptcy data with Prowess using firm names. Following this procedure, we are able to identify 238 firms that file for bankruptcy during our sample period.

4.2 Empirical specification and key variables

In our empirical analysis we do two sets of tests. In the first set of tests, we characterize the firms that have bank nominee directors on their boards. To do this we estimate variants of the following panel OLS model:

$$\text{Bank nominee}_{i,t} = \alpha + \beta_1 \times X_{i,t} + (\mu_t \times \mu_{indus}) + \epsilon_{it}, \quad (1)$$

where the subscript 'i' stands for the firm and the subscript 't' for time in years. *Bank nominee*_{*i,t*} is a dummy variable that takes a value one if firm *i* has a bank nominee in year *t*, and

zero otherwise. $X_{i,t}$ is a set of firm characteristics that includes firm size ($\text{Log}(\text{Total assets})$), age ($\text{Log}(\text{Age})$), firm profitability (ROA), leverage (Leverage), firm investment opportunities (Market to book), and measures of firm growth (Sales growth and Investment). $X_{i,t}$ also includes variables that characterize the firm’s ownership structure including a dummy variable that identifies if the firm belongs to a family owned business group (Group), the extent of shareholding with the firm’s insiders (Insider holding), and the extent of shareholding with banks and financial institutions ($\text{Institutional holding}$). All variables that we use in our analysis are defined in Appendix A. Our specification also includes within industry time fixed effects. These control for all time-varying factors that are common across firms within an industry. Thus our identification comes from differences across firms within an industry in a given year. The standard errors we estimate are robust to heteroskedasticity and clustered at the industry level. We identify a firm’s industry at the three-digit NIC code level.

Since *Bank nominee* is a dummy variable, in alternative robustness tests, we estimate a logit model. Some of the firms in our sample have multiple bank nominee directors on their board. To see if firms with multiple nominees are observationally different from firms with single nominees and those with no nominees, we also estimate a multinomial logit model. The dependent variable in that model takes a value one for firms without nominee directors, two for firms with one bank nominee on the board and three for firms with more than one bank nominee on the board.

In our second set of tests we estimate the effect of the presence of a bank nominee director on the firm’s future performance. To do this, we estimate variants of the following model:

$$y_{it} = \alpha + \beta_0 \times \text{Bank nominee}_{i,t-1} + \beta_1 \times X_{i,t-1} + \mu_i + \mu_t + \epsilon_{it}, \quad (2)$$

where y_{it} is a measure of firm i ’s performance at time t . The specific performance measures we model include *Investment*, *Leverage*, *Dividends/Total assets*, *Bankrupt* and *Market to book*. The control variables that we include varies with the dependent variable being modeled and includes one or more of $\text{Log}(\text{Total assets})$, $\text{Log}(\text{Age})$, *Insider holding*, *Institutional holding*, *Market to book* and lagged values of *Profit* and *Leverage*. Our sample for these regressions includes one observation per firm-year. We include firm and time fixed effects in all the tests. Thus, our identification comes from differences in performance of firms with a bank

nominee across time in comparison to firms without a bank nominee. The standard errors in this specification are also robust to heteroskedasticity and clustered at the industry level.

The identifying assumption in our baseline analysis is that, conditional on the control variables employed, the presence of a bank nominee is exogenous. This assumption will be violated if any omitted variable is correlated with both the presence of a bank nominee and firm performance. One such omitted variable could be the extent of agency problems in the firm. Banks may be more likely to appoint a nominee in firms which are perceived to have greater agency problems and such firms are also likely to have poor subsequent performance. Note that since we control for firm fixed effects, the omitted variable has to be time varying to affect our estimation. Our estimates could also be biased due to reverse causality as banks may appoint nominees on boards of firms whose performance is expected to deteriorate. We do two sets of tests to control for the possibility of such biases.

In our first robustness test, we estimate the effect of nominees appointed more than two years back on future firm performance. To the extent the appointment decision was in the past, it is unlikely to be affected by time varying omitted variables that may affect performance. To the extent that banks don't appoint nominees in anticipation of expected firm performance two years out, this strategy will also control for reverse causality.

In the second set of robustness tests, we explicitly control for omitted variables using a switching regression model (see Li and Prabhala (2007)). The advantages of the switching regression model are that, apart from explicitly controlling for *all* private information that may affect the presence of a bank nominee, it allows the control variables to have different coefficients for firms with and without a bank nominee while at the same time permitting the estimation of interesting counterfactuals. Our instrument for the presence of a bank nominee is a dummy variable that identifies the group affiliation status of the firm, *Group*.

Our identifying assumption in the switching regression model is that the instrument is correlated with the presence of a bank nominee, but conditional on the presence of a bank nominee and other controls employed, does not have an independent effect on firm performance. We believe that our instrument satisfies this requirement. As seen from the results in Table 2, *Group* is significantly correlated with the presence of a bank nominee.

We also believe that the instrument satisfies the exclusion restriction: there is *no a priori* reason to expect that after conditioning on a set of control variables, group affiliated firms will have a different performance as compared to non-group affiliated firms. We explain the specification for the switching regression model in greater detail in Section 5.3.

4.3 Summary statistics

In Table 1, we provide the descriptive statistics for our sample. We have a total of 24,340 firm-year observations for which we have information about the presence of a bank nominee and non-missing values for book value of total assets and sales. The average value of $\text{Log}(\text{Total assets})$ in our sample translates into a book value of total assets of Rs. 430.3 million.⁷ We measure firm age as the number of years since the firm was incorporated and the average age of firms in our sample is about 20.2 years. Almost all firms in our sample are publicly listed. The average profitability, which we measure as the ratio of operating profits over total assets, of the firms in our sample is about 13.4%, while the average sales growth is 23.5%. Sales growth appears to have a few outliers, as the median sales growth in our sample is only 11.5%. To avoid the effect of outliers all variables of empirical interest are winsorized at the 3% level. The average market-to-book ratio of firms in our sample is 1.192, while the median is only 0.858. Firms on average finance about 50.1% of the book value of total assets using debt. About 46.6% of the firms in our sample are affiliated with a family owned business group, as seen from the mean value of *Group*. We identify 512 unique business groups in our sample and the average business group in our sample has 2.45 firms (median is 2), with the largest business group consisting of 116 firms.

Due to missing values for capital expenditure, we measure investment as the rate of growth of total assets and find that for an average firm in our sample, total assets grow at a rate of 14.5% annually. Firms on average pay about 1% of the book value of total assets as dividends. About 17.4% of the firms in our sample have a bank or institutional nominee on their boards, while the average number of bank nominee's on firm's boards is

⁷All variables are measured in units of Rs. Crores, where one Crore equals 10 million. The average $\text{Log}(\text{Total assets})$ of 3.762 implies total assets of Rs. 43.03 crores.

0.275. Conditional on having a bank nominee, firms on average have 2.75 nominees on their boards. About 1% of the firms in our sample enter bankruptcy. The average insider holding for the firms in our sample is 45.4% as indicated by the mean value of *Insider holding*, while the average shareholding of banks and institutions in our sample is 5.2%.

In Panel B, we divide our sample into firms with and without nominee directors and present their summary statistics. Note that all except two variables listed in Panel B are significantly different across the two subsamples at less than 1% level. Firms with a bank nominee are larger, as indicated by higher values of $\text{Log}(\text{Total assets})$, and slightly older. To the extent larger and older firms are likely to have lower information problems, this evidence is inconsistent with the *Information* hypothesis. Since over 99% of our sample comprises of public firms, there is little difference in the public ownership status of the two subsamples. Firms with nominee directors are marginally less profitable, have lower sales growth rates and market-to-book ratios. Thus, based on the summary evidence, firms with nominee directors appear to have weaker performance and fewer growth opportunities. This again is inconsistent with the *Information* hypothesis. Not surprisingly, firms with bank nominee directors have higher leverage. Such firms are also more likely to belong to a business group and have lower insider holding and higher institutional shareholding. Thus the ownership pattern of firms with a bank nominee is consistent with such firms having greater agency problems. Firms with nominee directors invest less and pay lower dividends. This is strongly consistent with the *Debt-equity* agency hypothesis. Finally we find that consistent with their higher leverage, firms with a bank nominee are more likely to become bankrupt. Summarizing, our univariate evidence is consistent with both the *Monitoring* and *Debt-equity* agency hypothesis and inconsistent with the *Information* hypothesis. We now turn to multivariate tests.

5 Empirical results

5.1 Which firms have bank nominee directors?

In Table 2, we present the results of estimating equation (1) in our full sample. The results in Column (1) confirm our univariate evidence and show that in the full sample, firms with bank nominees are larger, as indicated by the positive and significant coefficient on $\text{Log}(\text{Total assets})$. This is inconsistent with the *Information* hypothesis, which predicts that smaller, opaque firms are more likely to have bank nominees. We also find that firms with a bank nominee have lower investment but higher sales growth. Not surprisingly, firms with a bank nominee have significantly higher leverage. The positive and significant coefficient on *Group* indicates that bank nominees are more likely to be present among group firms. If group firms are associated with greater agency problems, then this evidence is consistent with the *Monitoring* hypothesis. Since our specification is a linear probability model, we can easily estimate the economic significance of our coefficients. The coefficient on *Group* indicates that group firms are about 5.2% more likely to have a bank nominee on their board. In comparison, the average firm in our sample is 17.4% likely to have a bank nominee. Among the other financial variables, firm size and leverage appear to have the greatest economic impact on a firm's likelihood of having a bank nominee. A one standard deviation increase in $\text{Log}(\text{Total assets})$ is associated with a 9.95% increase in the probability of having a bank nominee. Similarly, a one standard deviation increase in *Leverage* is associated with a 5.64% increase in the probability of having a bank nominee.

In Column (2) we include the shareholding of insiders and institutions as additional covariates and find that firms with a nominee director have lower insider holding and higher institutional shareholding. If firms with lower insider holding suffer greater tunneling, as shown by Bertrand, Mehta and Mullainathan (2002), then this evidence is also consistent with the *Monitoring* hypothesis. Since we do not have data on ownership structure for all firms in our sample, inclusion of these variables significantly reduces the sample size. Hence in subsequent specifications we do not include these variables but in unreported tests we ensure that their inclusion does not qualitatively change the results reported here.

In Column (3) we test whether, as predicted by the *Information* hypothesis, firms with a bank nominee have greater need for external finance. Our proxy for a firm's need for external finance is the industry-level *RZ-Index*, first constructed in Rajan and Zingales (1998). A higher value of the index indicates a greater external finance dependence of the firm's industry. Our results in Column (3) show that contrary to the *Information* hypothesis, firms with a bank nominee have lower *RZ-Index* and thus are from industries that depend less on external finance. Since *RZ-Index* does not vary through time or across firms in an industry, inclusion of within-industry time fixed effects will not allow us to estimate the coefficient on *RZ-Index*. Hence in this specification, we only include time fixed effects.

In Column (4) we include the *Altman Z-score* to test if firms with a bank nominee are financially distressed. Note that a lower value of *Altman Z-score* indicates a greater likelihood of financial distress. Our results indicate that firms with a bank nominee do have lower *Altman Z-score* consistent with such firms being financially distressed. This evidence is consistent with the *Debt-equity agency* hypothesis and the bank's need to exercise greater control over the management of financially distressed firms.

In Column (5) we repeat our estimates with a logit specification. To be comparable to the OLS results, we present the marginal odds ratio from our estimates. Further, since the logit model is a non-linear model, inclusion of more independent variables could lead to the incidental parameters problem (Neyman and Scott (1948)). To avoid that, in the specification, we only include time fixed effects. Our results from the logit model are similar to those with the OLS specification. We see that larger firms, firms with lower investments, higher profitability and those with higher leverage are more likely to have a bank nominee. We also find that firms that are affiliated with a business group are more likely to have a bank nominee. We also find that firms with a bank nominee have significantly lower market-to-book ratios and *Altman Z-score*, indicating less growth opportunities and greater financial distress. The one important difference between the OLS and logit specifications is that while the OLS results indicate that less profitable firms are more likely to have a bank nominee, the logit results indicate otherwise.

Finally in Columns (6) - (7) we estimate a multinomial-logit model differentiating between

firms with one and more than one bank nominee. The dependent variable in this specification takes a value one for firms with no bank nominee, two for firms with one nominee and three for firms with more than one nominee. The base case in these regressions is not having a bank nominee. Of the 760 firms in our sample that have at least one bank nominee, 392 have more than one bank nominee at some point in time. Here again, for ease of comparison, we present the marginal odds ratio. The results in Column (6) are estimated from a comparison of firms with one bank nominee and firms with no nominee, while the results in Column (7) are obtained from comparing firms with more than one bank nominee and those with no nominee. We find that the results are similar across Columns (6) and (7) indicating that firms with multiple nominees are similar to those with a single nominee. Focusing on Column (7), we find that firms with multiple nominees are larger, have lower investment levels, higher sales growth, profitability and leverage. Such firms are more likely to belong to a business group, and have lower market to book ratio and *Altman Z-Score*.

In unreported tests we split our sample into group and non-group firms and re-estimate the OLS regression in the two sub-samples. We find that the results are largely similar across the two subsamples indicating that the determinants of having a bank nominee are similar across group- and non-group firms.

Summarizing, our results in Table 2 confirm the univariate evidence and show that firms with a bank nominee on their board are larger and have lower market to book ratio and investment levels. Inconsistent with the *Information* hypothesis, we find that such firms are not from industries with a higher *RZ-Index*. Consistent with the *Monitoring* hypothesis we find that firms with a bank nominee are more likely to belong to a business group, have lower insider holding and higher institutional shareholding. Firms with a bank nominee have higher leverage and lower *Altman Z-score*. This highlights the greater likelihood of debt-equity agency in such firms. In the next set of tests, we estimate the effect of bank nominee directors on future firm performance.

5.2 How does the presence of bank nominee directors affect firm performance?

In this section we estimate the effect of a bank nominee director on subsequent performance. We do this by estimating variants of equation (2) and report the results in Tables 3 - 6. The main performance metrics we focus on include *Investment*, *Leverage*, *Dividends* and *Bankruptcy*.

5.2.1 Investment

We begin our analysis by estimating the effect of bank nominees on firm investments. We do this by estimating variants of equation (2) and present the results in Table 3. The dependent variable is *Investment*, which is the annual growth rate in book value of total assets. Our main independent variable is lagged value of *Bank nominee*. Our control variables include, *Log(Total Assets)*, *Log(Age)*, *Market to book*, *Leverage* and *Profit*. In the specification we also include firm and time fixed effects and estimate standard errors that are robust to heteroskedasticity and clustered at the industry level. Note that we do not include variables that characterize the firm's ownership structure such as *Group* in these regressions because they are not time varying and hence their effect will be absorbed by the firm fixed effect.

The negative coefficient on *Bank nominee* in Column (1) indicates that firms with a bank nominee have lower investment in the next year as compared to firms without a bank nominee. The magnitude of the effect is economically significant. The coefficient indicates that firms with a bank nominee have 3.3% lower investment as compared to firms without a bank nominee. In comparison the mean value of *Investment* in our sample is 14.5%. From the coefficients on the control variables we find that larger firms, younger firms, firms with higher market to book ratio, more profitable firms and firms with higher leverage have higher investment levels.

As mentioned, our estimates could be biased due to omitted variables and reverse causality. In Column (2) we partially account for time-varying omitted variables by estimating the effect of bank nominees who were appointed more than two years back on firm invest-

ments. *Bank nominee - Alt* is a dummy variable that takes a value one if the firm had a bank nominee the previous year who was appointed more than two years back. We find that the coefficient on *Bank nominee - Alt* is also negative and significant. In unreported tests we find that the coefficients on *Bank nominee* and *Bank nominee-Alt* are not significantly different from each other. This provides us assurance that time varying omitted variables are not significantly biasing our estimates.

In Column (3) we design a sharper test of the *Information* hypothesis by differentiating firms based on prior profitability. To do this, we create a dummy variable *High ability*, that takes a value one for firms with positive industry-adjusted profitability the previous year and zero otherwise and replace *Bank nominee* with two interaction terms, *Bank nominee* \times *High ability* and *Bank nominee* \times [*1-High ability*]. We also include *High ability* as an additional control variable. If as predicted by the *Information* hypothesis, the presence of bank nominees selectively allows firms with high ability to invest more, then we expect a positive coefficient on *Bank nominee* \times *High ability*. We find that the coefficient on *High ability* is positive and significant, indicating greater investment by firms with high ability. We also find that the coefficient on *Bank nominee* \times *High ability* is negative and significant. This indicates that bank nominees reduce investment of firms with high past profitability. This is in stark contrast to the predictions of the *Information hypothesis*. From the row titled Δ Coef, we find that the coefficients on *Bank nominee* \times *High ability* and that on *Bank nominee* \times [*1-High ability*] are not significantly different from each other. This result is not consistent with the *Information* hypothesis.

In Column (4) we test if the effect of bank nominees on firm investments depends on the firm's investment opportunities. We use market-to-book ratio as our measure of investment opportunities and repeat our tests after including two interaction terms *Bank nominee* \times *High MTB* and *Bank nominee* \times [*1 - High MTB*], where *High MTB* is a dummy variable that identifies firms with above median market to book ratio. We also include *High MTB* as an additional regressor. We find that while the coefficient on both interaction terms are negative, only the one on *Bank nominee* \times *High MTB* is significant. Thus bank nominees reduce investments only in firms with high market to book ratios. These results do not offer

support to the *Information* hypothesis.

In Column (5) we test to see if the effect of bank nominees on firm performance differs across group and non-group firms. We do this by estimating equation (2) with two interaction terms $Bank\ nominee \times Group$ and $Bank\ nominee \times [1 - Group]$. The negative and significant coefficient on $Bank\ nominee \times Group$ indicates that bank nominees reduce investments especially for group affiliated firms. We do not find a similar effect of bank nominees on non-group firms. If group firms are associated with greater agency problems, then these results are consistent with the *Monitoring* hypothesis. This result also suggests that the dominant agency problem among group affiliated firms in India may be over- rather than under-investment and bank nominees may be effective in reducing such over-investment. Due to noise in our coefficient estimates, we find that the coefficients on the two interaction terms are not significantly different from each other.

Finally, in Column (6) we test if the effect of bank nominees on firm investments depends on firm leverage. To do this, we repeat our tests after including two interaction terms $Bank\ nominee \times High\ leverage$ and $Bank\ nominee \times [1 - High\ leverage]$. We also include *High leverage* as an additional control variable. To avoid problems of multicollinearity, we do not include *Leverage* as an additional regressor in this specification. We find that the coefficient on both interaction terms are negative and significant. Thus there is no evidence that bank nominees constrain investments differentially among firms with high leverage.

5.2.2 Leverage

In Table 4, we estimate the effect of bank nominees on firm leverage by estimating equation (2) with *Leverage* as the dependent variable. The control variables we employ include $Log(Total\ assets)$, $Log(Age)$, *Market to book* and *Profit*. From Column (1) we find that the coefficient on $Bank\ nominee$ is positive and significant. Firms with a bank nominee have 4.6% higher leverage. In comparison, the mean value of *Leverage* for the firms in our sample is 50.1%. This is consistent with bank nominees helping firms get better access to debt finance, and is also in line with the univariate results in Table 1. From the coefficient on the control variables we find that smaller firms, older firms, firms with high market to book

ratio and less profitable firms have a higher leverage.

In Column (2) we repeat our estimates after replacing *Bank nominee* with *Bank nominee - Alt* and obtain identical results. This shows that the effect of bank nominees on leverage is not due to some time varying omitted variable. In Column (3) we differentiate firms based on prior profits and repeat our estimates after replacing *Bank nominee - Alt* with two interaction terms, *Bank nominee* \times *High ability* and *Bank nominee* \times [*1 - High ability*]. We find that the coefficient on both interaction terms is positive and significant indicating that bank nominees are associated with higher leverage both among firms with high- and low profitability. We also find that the coefficient on *Bank nominee* \times [*1 - High ability*] is significantly larger than that on *Bank nominee* \times *High ability*. This indicates that the presence of bank nominees helps low ability firms to access more debt finance. This evidence is inconsistent with the *Information* hypothesis.⁸

In Column (4) we differentiate firms based on investment opportunities by including two interaction terms *Bank nominee* \times *High MTB* and *Bank nominee* \times [*1 - High MTB*]. Our results indicate that bank nominees are associated with a higher leverage both among firms with high and low market to book ratio, although the effect is significantly greater among firms with low market to book ratio.

In Column (5) we test to see if the effect of bank nominees on firm performance differs across group and non-group firms. We find that bank nominees are associated with a higher leverage ratio only among group firms. This again is consistent with the *Monitoring* hypothesis and highlights that bank nominees enable group firms access more debt finance. Due to noise in our estimates, we find that the coefficients on the two interaction terms are not significantly different from each other.

⁸To ensure that this result is not due to self-selection of bank nominees into distressed firms, in unreported tests, we repeat the regression after replacing the two interaction terms with *Bank nominee - Alt* \times *High ability* and *Bank nominee - Alt* \times [*1 - High ability*], and obtain results similar to the ones reported.

5.2.3 Dividend payout

In Table 5, we estimate the effect of bank nominees on firm dividend payout. Our dependent variable in these regressions is *Dividends/Total assets*. We include $\text{Log}(\text{Total assets})$, $\text{Log}(\text{Age})$, *Market to book*, *Profit* and *Leverage* as additional controls. The negative and significant coefficient on *Bank nominee* in Column (1) indicates that bank nominees are associated with lower dividend payout. Our estimates are also economically significant. We find that firms with a bank nominee have 0.1% lower *Dividends/Total assets*. In comparison, the mean value of *Dividends/Total assets* in our sample is 1%. Thus bank nominees lower firm dividends by almost 10%. The coefficients on the control variable indicate that small firms, firms with higher market to book ratio and more profitable firms pay more dividends.

In Column (2) we repeat our tests after replacing *Bank nominee* with *Bank nominee - Alt* and obtain identical results. In Column (3), we differentiate firms based on prior ability and find that bank nominees depress dividends only among firm with high ability. From the row titled $\Delta \text{Coef.}$ we do find that the coefficients on the two interaction terms are not significantly different from each other.

In Column (4) we differentiate firms based on market to book ratio and find that bank nominees are associated with lower dividends both among firms with high and low market to book ratio. In Column (5) we differentiate firms based on their group affiliation status by including two interaction terms $\text{Bank nominee} \times \text{Group}$ and $\text{Bank nominee} \times [1 - \text{Group}]$ and find that while the coefficients on both interaction terms is negative, they are not significant at conventional levels.

Finally in Column (6) we differentiate firms based on prior leverage and not surprisingly find that bank nominees reduced dividends especially among firms with high leverage. Overall, the lower dividend rates among firms with a bank nominee and especially those with high leverage is consistent with the *Debt-Equity* agency hypothesis.

5.2.4 Likelihood of bankruptcy

In the next set of tests, we estimate the effect of bank nominees on bankruptcy likelihood. The dependent variable in these tests is *Bankrupt*, a dummy variable that takes a value one in the year in which the firm files for bankruptcy. Our control variables include $\text{Log}(\text{Total assets})$, $\text{Log}(\text{Age})$, *Group*, *Profit* and *Leverage*. In the regressions, instead of firm fixed effects, we include within industry time fixed effects.

The results in Column (1) of Table 6 show that firms with a bank nominee actually are more likely to declare bankruptcy. The size of the coefficient indicates that firms with a bank nominee are 0.5% more likely to declare bankruptcy in a given year. In comparison, the unconditional probability of a firm declaring bankruptcy in our sample is 1%. Thus we find that firms with a bank nominee have almost 50% greater likelihood of declaring bankruptcy. From the coefficients on the control variables, we find that after controlling for within-industry time effects, only *Market to book* and *Profit* have a significant effect on bankruptcy likelihood. Surprisingly, we find that firms with a high market to book ratio have a higher bankruptcy likelihood. We also find that firms with low profitability have a higher bankruptcy probability.

In Column (2) we repeat our estimates after replacing *Bank nominee* with *Bank nominee - Alt* and find that the coefficient on *Bank nominee - Alt* is no more significant. This indicates that a possible reason for the positive and significant coefficient on *Bank nominee* in Column (1) may be because of banks appointing nominee directors on the boards of financially distressed firms in anticipation of an impending bankruptcy.

In Column (3) we repeat our estimates after including firm and time fixed effects instead of within industry time fixed effects and find the coefficient on *Bank nominee* to be insignificant. This again shows that the positive and significant correlation between *Bank nominee* and a firm's bankruptcy likelihood in Column (1) is because of self-selection. In Column (4) we differentiate between group and non-group firms and find that the positive correlation between *Bank nominee* and *Bankruptcy* is present only for non-group firms. We also find that the coefficient on $\text{Bank nominee} \times [1 - \text{Group}]$ is significantly larger than that

on *Bank nominee* \times *Group*. This indicates that banks are more likely to appoint nominees on the board of non-group firms when they are in financial distress and in anticipation of an impending bankruptcy filing. This highlights the bank's concern about possible loss of value from these firms.

5.2.5 Value

In the next set of tests, we estimate the effect of bank nominees on overall firm value. Following prior research we use *Market to book* as our measure of firm value. Since firm size is an important determinant of *Market to book*, in these regressions, we control for firm size in a non-parametric manner using one hundred dummy variables to denote each percentile of $\text{Log}(\text{Total assets})$. Our other control variables include $\text{Log}(\text{Age})$, *Group*, *Profit*, *Investment* and *Leverage*. In the regressions, instead of firm fixed effects, we include within industry time fixed effects.

The results in Column (1) of Table 7 show that firms with a bank nominee have lower market to book ratio. Our results again are economically significant, as the presence of a bank nominee reduces *Market to book* by 0.139 as compared to the mean value of 1.192. This represents a 11.7% reduction. From the coefficients on the control variables, we find that after controlling for firm size and within-industry time effects, group firms, firms with higher leverage and more profitable firms have higher market to book ratio.

In Column (2) we repeat our estimates after replacing *Bank nominee* with *Bank nominee* - *Alt* and obtain identical results. This shows that the negative association between the presence of a bank nominee and *Market to book* is not due to banks appointing nominees on the boards of weaker firms. In Column (3), we differentiate firms based on prior ability and find that bank nominees depress *Market to book* only among firm with high ability. From the row titled Δ *Coef.* we do find that the coefficients on the two interaction terms are significantly different from each other. This evidence is inconsistent with the *Information* hypothesis but is strongly consistent with the *Debt-equity agency* hypothesis.

In Column (4) we differentiate firms based on their group affiliation status by including

two interaction terms $Bank\ nominee \times Group$ and $Bank\ nominee \times [1 - Group]$ and find that bank nominees are associated with a lower market to book ratio only among group affiliated firms. Here again we find the coefficients on the two interaction terms to be significantly different from each other.

In Column (6) we differentiate firms based on insider holding. We do this by including two interaction terms $Bank\ nominee \times High\ insider$ and $Bank\ nominee \times [1 - High\ insider]$, where $High\ insider$ is a dummy variable that takes a value one for firms with insider holding above the sample median. We also include $High\ insider$ as an additional control variable. We find that the coefficient on $High\ insider$ is positive and significant, consistent with firms with higher insider holding having a higher *Market to book* (Claessens et al., (2000)). We also find that the coefficient on the two interaction terms are negative and significant. This shows that bank nominees reduce the market to book ratio for both firms with high and low insider holding. Finally, in Column (7) we differentiate firms based on leverage and find that while the coefficient on the two interaction terms are not significant by themselves, the difference is significant. The difference between the coefficients indicates that bank nominees reduce market to book ratio among firms with low leverage. This evidence is consistent with the *Debt- equity agency* hypothesis. It highlights that bank involvement in a firm with low leverage is especially harmful to the equity holders. Overall, the lower *Market to book* among firms with a bank nominee and especially those with low leverage is consistent with the *Debt-Equity* agency hypothesis.

5.3 Switching Regression Model

In any analysis of the effect of directors on firm performance, a key concern is about the endogeneity of the director's presence on the board. We have interpreted our results to suggest that the presence of bank nominees adversely affects firm performance. We then concluded that it is evidence of the conflict between debt and equity, rather than the value of information and monitoring. However, an alternative interpretation of the results could be that firms attract nominees based on their performance - e.g., firms with more leverage or firms with a greater likelihood of bankruptcy attract bank nominees.

We perform tests that explicitly control for the endogeneity of a having a bank nominee director. In Table 8, we relate firm performance to the presence of bank nominee director after controlling for endogeneity. To do this, we estimate a switching regression model (see Fang (2005), and Li and Prabhala (2007)). The model consists of estimating three regressions: a probit selection model with *Bank nominee*_{*t*-1} as the dependent variable, and two separate OLS models with firm performance measures as the dependent variable that are estimated for firms with and without a bank nominee on the board.⁹ We augment the two OLS models with the Inverse Mills ratio and the Mills ratio, respectively, estimated from the first-stage regression.¹⁰

In Column (1) of Panel A, we present the results of the first-stage probit model. Since we lack exogenous instruments for the presence of a bank nominee, we include all observable firm characteristics. The coefficients in Column (1) are consistent with those in Table 2 and indicate that firms with a bank nominee are larger, with greater likelihood of financial distress, have lower insider holding and higher institutional holding, have higher lagged leverage.

In Columns (2) and (3), we present the results of the OLS regressions with *Investment* as the dependent variable for firms that do not have a bank nominee on the board (Column (2)) and for the firms that do have a bank nominee on the board (Column (3)). The empirical specification in these columns is similar to that in Column (1), except that we include the *Inverse Mills ratio* and *Mills ratio* as additional regressors in Columns (2) and (3), respectively, to control for unobserved characteristics (i.e., private information) that may affect both *Investment* and the presence of a bank nominee director. A test of whether *Investment* is lower for firms with a bank nominee is to compare the actual *Investment*

⁹The switching regression model, while similar to a Heckman selection model, is more general because it estimates two second-stage equations and thus allows for different coefficients on the covariates for the “selected” and the “not selected” samples. Similar to the Heckman model, the identification comes from the non-linearity of the model, which arises from the assumption of joint normality for the error terms.

¹⁰The Mills ratio and the Inverse Mills ratio are given by the formulas $\frac{\phi(\hat{\gamma}Z')}{\Phi(\hat{\gamma}Z')}$ and $\frac{-1 \times \phi(\hat{\gamma}Z')}{1 - \Phi(\hat{\gamma}Z')}$, where ϕ and Φ denote respectively the probability density function and the cumulative distribution function of the standard normal distribution, Z is the vector of regressors used in the selection model, and $\hat{\gamma}$ denotes the vector of coefficient estimates from the selection model.

for such firms with the counterfactual *Investment* if the same firms did not have a bank nominee on the board. We estimate the counterfactual by combining the coefficient estimates in Column (2) with the firm characteristics for firms with a bank nominee. In Panel B, we report the result of a *t*-test for the statistical significance of the difference between the actual investment and the counterfactual. Our results indicate that the investment for firms with a bank nominee on the board is significantly lower than the counterfactual. We find that our estimate from the switching regression model is smaller than that from the OLS model.

In Columns (4)-(5) and Panel C we implement the switching regression model with *Leverage* as the dependent variable and confirm that firms with bank nominees have a higher leverage. In Columns (6)-(7) and Panel D we implement the switching regression model with *Dividends/Total assets* as the dependent variable and find that firms with bank nominees have lower dividend payout rates.

Finally in Columns (8)-(9) we implement the switching regression model with *Bankruptcy* as the dependent variable in a logit regression. The first stage regression is the same as in Column (1). In Panel E, we present the results of the *t*-test comparing the actual *Bankruptcy* to the counterfactual bankruptcy of firms with a bank nominee. Our results again show that firms with a bank nominee have a higher likelihood of bankruptcy.

Overall, the switching regression model allows us to explicitly control for the endogenous presence of bank nominees on firm boards and to estimate their effect on firm performance. We continue to find that firms with bank nominees have lower investment, dividend payout but higher leverage and bankruptcy risk.

6 Conclusion

Our paper investigates the interaction between corporate governance and corporate performance in an emerging market context with weak institutions. It focuses on a particular channel for corporate governance, namely the board and the role of affiliated bankers on the board. This is particularly timely and relevant, given the worldwide push towards improving corporate governance by reforming board of directors and increasing the extent of

independent directors on firm boards.

Using a large panel data from India, we find that compared with firms without bankers on board, firms with bankers on board tend to be those with lower information asymmetry, have lower investments and lower profits. These firms are more likely to be from industries with lower dependence on external capital and are more likely to be in financial distress. The presence of bankers affects firm performance. We find that bankers on boards are associated with more conservative management, in the form of lower investments and lower dividend payouts. Nominees are appointed in anticipation of imminent bankruptcy to oversee the proceedings. Thus, we interpret the evidence as being consistent with bankers on board playing a monitoring role but also worsening the conflict between debt and equity. In fact, nominees lower rather than enhance firm value. This result is particularly striking in the Indian context where the bank nominees have more freedom, without being encumbered with the board's responsibility towards the shareholders. We find little evidence for the Information hypothesis.

We contribute to the literature on corporate governance in emerging markets. Expropriation by controlling insiders and high agency costs from conflict with outside investors are typical of such economies with poor institutions. Given the dominance of banks in such economies, we offer critical insight on their role in governance in such environments. This paper is one of a handful of papers looking at debt as a tool for internal governance. India offers a natural setting for these issues - as an emerging economy, with tunneling common among business groups, and large government-controlled financial institutions that are allowed to appoint nominees on the board of borrowing firms.

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Appendix A: Variable definitions

- Sales: total sales in units of Rs. 10 million.
- Sales growth: growth rates of sales.
- Investment: growth rate of total assets.
- Profits: ratio of operating profits to total assets.
- Age: firm age since incorporation measured in number of years.
- Public: dummy variable that takes a value 1 for firms that are publicly traded.
- Market-to-Book (MTB): ratio of market value of total assets to book value of total assets.
- Leverage: ratio of book value of total borrowings to book value of total assets.
- Group: dummy variable that takes a value 1 for firms that belong to a business group.
- Dividends/Total assets: ratio of total dividends paid out to book value of total assets.
- Promoter holding: percentage of outstanding shares held by promoters.
- Insitutional holding: percentage of outstanding shares held by banks and other financial institutions.
- Bank nominee: dummy variable that takes a value 1 for firms that have nominee(s) of financial institutiois on board
- Bank nominee - Alt: dummy variable that takes a value 1 if the bank nominee was appointed more than two years back
- Industry Market-to-Book: median ratio of market value of total assets to book value of total assets of all firms in an industry.
- Industry adjusted Market-to-Book: difference between a firm's market-to-book and the corresponding industry market-to-book.
- Industry sales growth: median growth rate of sales of all firms in an industry.
- Industry leverage: median ratio of total borrowings to book value of total assets of all firms in an industry.
- Industry profit: median ratio of operating profits to total assets of all firms in an industry.
- RZ-Index: measure of external-finance dependence of a firm, based on the methodology of Rajan and Zingales (1998).
- Altman Z-Score: measure of a firm's probability of default, based on the methodology of Altman (1968).
- High ability: dummy variable that takes a value 1 for firms whose operating profits to totat assets in the previous year exceeded the industry profitability in the previous year.
- High MTB: dummy variable that takes a value 1 for firms whose market to book in the previous year exceeded the industry market to book in the previous year.
- High leverage: dummy variable that takes a value 1 for firms whose leverage in the previous year exceeded the industry leverage in the previous year.
- Bankrupt: dummy variable that takes a value 1 for firms that filed for bankruptcy under BIFR.

Table 1: Descriptive statistics

Panel A: Descriptive statistics for the full sample

	N	Mean	Median	Standard deviation
Log(Total assets)	24340	3.762	3.712	1.952
Log(Age)	24245	3.005	2.944	0.654
Public	24255	0.999	1	0.033
Profits	24340	0.134	0.129	0.152
Sales growth	21895	0.235	0.115	0.69
Market to book	18211	1.192	0.858	1.046
Leverage	24340	0.501	0.428	0.513
Group	24340	0.466	0	0.499
Investment	22120	0.145	0.054	0.37
Dividends/Total assets	24340	0.01	0	0.016
Bank nominee	24340	0.174	0	0.379
Number of bank nominees	24340	0.275	0	0.719
Bankrupt	24340	0.010	0.000	0.100
Insider holding	19964	0.454	0.466	0.222
Institutional holding	19964	0.052	0.007	0.091

Panel B: Mean values for firms with and without a bank nominee on the board

	Bank nominee		No nominee		Difference
	N	Mean	N	Mean	
Log(Total assets)	4227	5.104	20113	3.48	1.623***
Log(Age)	4224	3.193	20021	2.965	0.228***
Public	4224	1	20031	0.999	0.001**
Profits	4227	0.131	20113	0.135	-0.004*
Sales growth	3675	0.127	18220	0.256	-0.129***
Market to book	3673	1.101	14538	1.215	-0.114***
Leverage	4227	0.759	20113	0.446	0.312***
Group	4227	0.785	20113	0.399	0.386***
Investment	3685	0.088	18435	0.156	-0.069***
Dividends/Total assets	4227	0.007	20113	0.01	-0.003***
Bankrupt	3586	0.02	15346	0.01	0.01***
Insider holding	3128	0.391	16836	0.465	-0.074***
Institutional holding	3128	0.12	16836	0.039	0.081***

This table reports the descriptive statistics of our sample. Panel A summarizes the whole sample while Panel B provides the mean values of the subsample of firms with and without a bank nominee director. In Panel B, the last column reports the difference in means for each variable. All variables are defined in Appendix A. The data cover the period 1994-2008 and are from the Prowess database. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 2: Which firms have bank nominee directors?

	Bank nominee				One nominee		Multiple nominees	
	OLS				Logit		Multinomial logit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Log(Total assets)	.051 (.011)***	.034 (.011)***	.069 (.008)***	.059 (.011)***	0.045 (.012)***	0.024 (.008)***	0.016 (.004)***	
Log(Age)	.022 (.015)	.005 (.016)	.022 (.011)*	.019 (.014)	0.011 (.012)	0.006 (.009)	0.004 (.004)	
Investment	-.082 (.018)***	-.064 (.017)***	-.099 (.019)***	-.090 (.018)***	-.747 (.017)***	-.081 (.011)***	-.042 (.008)***	
Sales growth	.010 (.005)**	.010 (.005)**	.008 (.005)	.006 (.005)	.014 (.008)	0.002 (.006)***	0.003 (.003)***	
Profit	-.022 (.042)	.016 (.042)	-.098 (.039)**	-.042 (.041)	0.121 (.038)***	0.087 (.026)***	0.034 (.015)***	
Leverage	.211 (.029)***	.204 (.029)***	.157 (.011)***	.140 (.019)***	0.180 (.036)***	0.119 (.026)***	0.051 (.012)***	
Group	.071 (.022)***	.066 (.022)***	.069 (.019)***	.067 (.022)***	0.084 (.023)***	0.051 (.014)***	0.031 (.011)***	
Insider holding		-.054 (.030)*						
Institutional holding		.792 (.111)***						
RZ-Index			-.076 (.014)***					
Market to book	-.028 (.007)***	-.032 (.007)***			-0.043 (.011)***	-0.031 (.008)***	-0.011 (.003)***	
Altman Z-Score				-.0006 (.0003)*	-0.005 (.002)***	-0.003 (.001)***	-0.001 (.001)***	
Obs.	16660	15020	16332	19390	15244	15244	15244	
Fixed effects	Within industry-time		Time	Within industry-time	Time			
Adj R-2	.208	.223	.246	.196				

This table reports the results of a panel data regression of a dummy variable that identifies firms with bank nominee directors and firm characteristics. Specifications (1)-(4) are OLS and specification (5) is a logit model. Columns (6) and (7) are the results of a multinomial logit where the baseline is zero bank nominee, 1 nominee in column (6) and more than 1 in column (7). Logit and multinomial logit results are marginal effects. All variables are defined in Appendix A. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, **, * and * denote significance at the 1%, 5% and 10% levels respectively

Table 3: Bank nominee and firm investment

	(1)	(2)	(3)	(4)	(5)	(6)
Bank nominee	-.033 (.013)**					
Bank nominee - Alt		-.026 (.012)**				
High ability			.108 (.016)***			
Bank nominee × High ability			-.038 (.014)***			
Bank nominee × [1-High ability]			-.033 (.019)*			
High MTB				.013 (.014)		
Bank nominee × High MTB				-.032 (.012)***		
Bank nominee × [1- High MTB]				-.021 (.015)		
Bank Nominee × Group					-.041 (.015)***	
Bank Nominee × [1-Group]					.016 (.046)	
Bank nominee × High leverage						-.028 (.016)*
Bank nominee × [1-High leverage]						-.029 (.015)**
High leverage						-.057 (.015)***
Log(Total assets)	.219 (.010)***	.219 (.010)***	.226 (.010)***	.218 (.009)***	.219 (.010)***	.218 (.010)***
Log(Age)	-.230 (.061)***	-.231 (.061)***	-.247 (.066)***	-.206 (.056)***	-.230 (.061)***	-.237 (.061)***
Market to book	.014 (.008)*	.014 (.008)*	.019 (.008)**		.014 (.008)*	.017 (.008)**
Profit	.582 (.058)***	.583 (.058)***		.453 (.059)***	.582 (.058)***	.548 (.058)***
Leverage	.007 (.001)***	.006 (.001)***	.006 (.001)***	.009 (.003)**	.007 (.001)***	
Obs.	14831	14831	14831	18800	14831	14831
Adjusted R ²	.422	.422	.41	.403	.422	.42
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Δ Coef			-.005 (.018)	-.011 (.015)	-.057 (.051)	.001 (.016)

This table reports the results of a panel data regression with *Investment* as the dependent variable. *Bank nominee* is a dummy which takes value 1 if there was a bank nominee on the firm's board the previous year, and 0 otherwise. All other variables are described in Appendix A. Δ *Coef* is the difference in the coefficients of the interaction terms in the specification. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 4: Bank nominee and firm leverage

	(1)	(2)	(3)	(4)	(5)
Bank nominee	.046 (.012)***				
Bank nominee - Alt		.046 (.011)***			
High ability			-.079 (.010)***		
Bank nominee \times High ability			.033 (.014)**		
Bank nominee \times [1-High ability]			.075 (.016)***		
High MTB				.023 (.007)***	
Bank nominee \times High MTB				.037 (.016)**	
Bank nominee \times [1- High MTB]				.080 (.022)***	
Bank Nominee \times Group					.047 (.014)***
Bank Nominee \times [1-Group]					.038 (.037)
Log(Total assets)	-.032 (.012)***	-.032 (.012)***	-.041 (.014)***	-.074 (.018)***	-.033 (.012)***
Log(Age)	.099 (.039)**	.101 (.038)***	.116 (.043)***	.111 (.046)**	.099 (.039)**
Market to book	.082 (.013)***	.082 (.013)***	.076 (.013)***		.082 (.013)***
Profit	-.598 (.075)***	-.598 (.075)***		-.506 (.077)***	-.598 (.075)***
Obs.	14831	14831	14831	18800	14831
Adjusted R ²	.796	.796	.783	.792	.796
Year FE	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES
Δ Coef			-.042 (.017)**	-.043 (.019)**	.009 (.041)

This table reports the results of a panel data regression with *Leverage* as the dependent variable. *Bank nominee* is a dummy which takes value 1 if there was a bank nominee on the firm's board the previous year, and 0 otherwise. All other variables are described in Appendix A. Δ *Coeff* is the difference in the coefficients of the interaction terms in the specification. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 5: Bank nominee and firm dividend

	(1)	(2)	(3)	(4)	(5)	(6)
Bank nominee	-.001 (.0007)**					
Bank nominee - Alt		-.001 (.0005)**				
High ability			.005 (.0005)***			
Bank nominee × High ability			-.002 (.0008)**			
Bank nominee × [1-High ability]			-.001 (.0007)			
High MTB				.001 (.0003)		
Bank nominee × High MTB				-.001 (.0007)*		
Bank nominee × [1- High MTB]				-.001 (.0006)*		
Bank Nominee × Group					-.001 (.0008)*	
Bank Nominee × [1-Group]					-.002 (.001)*	
High leverage						-.003 (.0005)***
Bank nominee × High leverage						-.002 (.0006)**
Bank nominee × [1-High leverage]						-.0007 (.0008)
Log(Total assets)	-.001 (.0004)***	-.001 (.0005)***	-.0008 (.0005)	-.001 (.0005)**	-.001 (.0004)***	-.001 (.0004)**
Log(Age)	-.003 (.002)	-.003 (.002)	-.004 (.002)	-.003 (.002)	-.003 (.002)	-.003 (.002)
Market to book	.002 (.0003)***	.002 (.0003)***	.002 (.0003)***	.002 (.0003)***	.002 (.0003)***	.002 (.0003)***
Profit	.025 (.003)***	.025 (.003)***		.026 (.002)***	.025 (.003)***	.024 (.002)***
Leverage	-.00004 (.00002)	-.00004 (.00002)	-.00006 (.00003)**	-.00004 (.00003)	-.00004 (.00002)	
Obs.	14831	14831	13613	13613	14831	14831
Adjusted R^2	.707	.707	.694	.705	.707	.71
Year FE	YES	YES	YES	YES	YES	
Firm FE	YES	YES	YES	YES	YES	
Δ Coef			-.0008 (.0007)	-.0003 (.0005)	-.0009 (.0006)	-.0006 (.001)

This table reports the results of a panel data regression with *Dividends/Total assets* as the dependent variable. *Bank nominee* is a dummy which takes value 1 if there was a bank nominee on the firm's board the previous year, and 0 otherwise. All other variables are described in Appendix A. Δ *Coeff* is the difference in the coefficients of the interaction terms in the specification. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 6: Bank nominee and bankruptcy likelihood

	(1)	(2)	(3)	(4)
Bank nominee	.005 (.002)**		-.0002 (.004)	
Bank nominee - Alt		.003 (.002)		
Bank Nominee \times Group				.002 (.003)
Bank Nominee \times [1-Group]				.020 (.006)***
Group	-.0007 (.002)	-.0006 (.002)		.002 (.002)
Log(Total assets)	.0001 (.0005)	.0003 (.0004)	-.0001 (.002)	-1.00e-05 (.0005)
Log(Age)	-.002 (.001)	-.002 (.001)	.004 (.008)	-.002 (.001)
Market to book	.008 (.002)***	.008 (.002)***	.004 (.002)***	.008 (.002)***
Profit	-.095 (.020)***	-.096 (.020)***	-.094 (.023)***	-.095 (.020)***
Leverage	-.00004 (.0001)	-.00003 (.0002)	-.0004 (.00005)***	
Obs.	14831	14831	14831	14831
Adjusted R^2	.027	.026	.077	.028
Within-industry year FE	YES	YES	NO	YES
Firm & Year FE	NO	NO	YES	NO
Δ Coef				-.018 (.0007)***

This table reports the results of a panel data regression with *Bankruptcy* as the dependent variable. *Bank nominee* is a dummy which takes value 1 if there was a bank nominee on the firm's board the previous year, and 0 otherwise. All other variables are described in Appendix A. Δ *Coef* is the difference in the coefficients of the interaction terms in the specification. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 7: Bank nominee and firm value

	(1)	(2)	(3)	(4)	(5)	(6)
Bank nominee	-.139 (.038)***					
Bank nominee - Alt		-.138 (.038)***				
High ability			.349 (.058)***			
Bank nominee \times High ability			-.247 (.062)***			
Bank nominee \times [1-High ability]			.007 (.033)			
Bank Nominee \times Group				-.181 (.043)***		
Bank Nominee \times [1-Group]				.027 (.052)		
High insider					.121 (.037)***	
Bank nominee \times High insider					-.151 (.056)***	
Bank nominee \times [1- High insider]					-.137 (.047)***	
High leverage						.165 (.041)***
Bank nominee \times High leverage						.065 (.042)
Bank nominee \times [1-High leverage]						-.092 (.061)
Log(Age)	.007 (.031)	.008 (.031)	.021 (.034)	.007 (.031)	.022 (.033)	.003 (.030)
Group	.296 (.037)***	.299 (.038)***	.341 (.044)***	.324 (.037)***	.286 (.037)***	.361 (.047)***
Leverage	1.034 (.040)***	1.028 (.041)***	.913 (.057)***	1.028 (.039)***	1.026 (.045)***	
Investment	.049 (.047)	.052 (.047)	.104 (.056)*	.051 (.047)	.051 (.047)	.034 (.050)
Profit	2.054 (.281)***	2.056 (.280)***		2.047 (.279)***	2.077 (.289)***	1.379 (.316)***
Const.	2.347 (.387)***	2.344 (.389)***	2.515 (.403)***	2.343 (.387)***	2.411 (.345)***	3.254 (.536)***
Obs.	14831	14831	14831	14831	13459	14831
Adjusted R ²	.372	.372	.332	.373	.364	.25
Within-industry year FE	YES	YES	YES	YES	YES	YES
Δ Coef			-.20 (.048)***	.208 (.059)***	-.026 (.064)	.157 (.049)***

This table reports the results of a panel data regression with *Market to book* as the dependent variable. *Bank nominee* is a dummy which takes value 1 if there was a bank nominee on the firm's board the previous year, and 0 otherwise. All other variables are described in Appendix A. Δ *Coeff* is the difference in the coefficients of the interaction terms in the specification. The data cover the period 1994-2008 and are from the Prowess database. The standard errors (in parentheses) are robust to heteroscedasticity and clustered at the industry level. ***, ** and * denote significance at the 1%, 5% and 10% levels respectively.

Table 8: Bank nominee and firm performance: Switching regression model

Panel A

	Bank nominee	Investment	Leverage	Dividends/Total assets	Bankruptcy				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mills		0.426*** (0.05)	-0.693*** (0.14)	0.014*** (0.00)	2.682** (1.19)				
Inv mills		0.206*** (0.05)	-0.148 (0.09)	-0.001 (0.00)	0.320 (0.98)				
Log(Total assets)	0.164*** (0.04)	0.081*** (0.01)	0.090*** (0.01)	-0.082*** (0.01)	0.003*** (0.00)	0.240** (0.11)	0.002*** (0.00)	0.024 (0.20)	
Log(Age)	0.045 (0.06)	-0.073*** (0.01)	-0.048*** (0.01)	-0.015 (0.01)	0.003*** (0.00)	0.003 (0.18)	0.001 (0.00)	-0.612* (0.32)	
Group	0.431*** (0.09)								
Industry market to book	-0.025 (0.14)	0.006 (0.02)	-0.008 (0.03)	0.047** (0.02)	-0.050 (0.04)	0.001 (0.00)	0.004** (0.00)	0.032 (0.36)	0.037 (0.53)
Altman Z-Score	-0.024*** (0.00)	-0.002*** (0.00)	-0.001 (0.00)	-0.007*** (0.00)	-0.017*** (0.00)	0.000*** (0.00)	0.000*** (0.00)	-0.364*** (0.08)	-0.208 (0.24)
Profit	-0.624*** (0.23)	0.484*** (0.06)	0.349*** (0.07)	-0.356*** (0.11)	-1.079*** (0.10)	0.039*** (0.00)	0.028*** (0.00)	-7.992*** (1.17)	-9.429*** (1.53)
Leverage	0.009** (0.00)	0.005*** (0.00)	0.006*** (0.00)			0.000 (0.00)	0.000** (0.00)	0.011 (0.05)	-0.191 (0.26)
Insider holding	-0.275* (0.15)	-0.032 (0.03)	0.042 (0.03)	-0.011 (0.04)	-0.158 (0.10)	0.005*** (0.00)	0.002 (0.00)	-0.568 (0.65)	-1.372* (0.82)
Institutional holding	2.081*** (0.25)	0.168** (0.08)	0.180** (0.09)	-0.118 (0.20)	0.033 (0.12)	0.022*** (0.01)	-0.003 (0.00)	4.082*** (1.58)	2.303 (1.53)
Constant	-2.151*** (0.37)	-0.541*** (0.07)	-0.491*** (0.10)	0.687*** (0.12)	1.682*** (0.23)	-0.025*** (0.00)	-0.003 (0.01)	-3.261** (1.45)	-3.222 (3.79)
Observations	14,667	11,818	2,849	11,818	2,849	11,818	2,849	9,394	2,543
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Indus FE	NO	YES	YES	YES	YES	YES	YES	NO	NO
Pseudo R^2 / Adj R^2	0.189	0.170	0.181	0.228	0.451	0.369	0.323	0.304	0.282

Panel B: Difference between actual and counterfactual Investment

	Actual	Counterfactual	Difference
Investment of firms with bank nominees	.047	.085	-.038 (.005)***

Panel C: Difference between actual and counterfactual Leverage

	Actual	Counterfactual	Difference
Leverage of firms with bank nominees	.272	.152	.121 (.009)***

Panel D: Difference between actual and counterfactual Dividends/Total assets

	Actual	Counterfactual	Difference
Dividends/Total assets of firms with bank nominees	.007	.011	-.004 (.0002)***

Panel E: Difference between actual and counterfactual Bankruptcy Likelihood

	Actual	Counterfactual	Difference
Bankruptcy likelihood of firms with bank nominees	.021	.014	.008 (.003)***

This table reports the results of a switching regression model aimed at understanding the effect of *Bank nominee* on firm performance after controlling for the endogeneity of *Bank nominee*. The model consists of a selection equation (Probit) to estimate the probability of a firm having a bank nominee (Column (1) of Panel A), and two outcome equations that examine each of the various performance measures for firms with and without a bank nominee. The results of these are presented in Panel A, Columns (2)-(3) for *Investment*, Columns (4)-(5) for *Leverage*, Columns (6)-(7) for *Dividends/Total assets* and Columns (8)-(9) for *Bankruptcy* based on logit models. The *Mills Ratio (Inverse Mills Ratio)* estimated from the coefficient estimates in Column (1) are used as additional controls in Columns (2), (4), (6), & (8) (Columns (3), (5), (7), & (9)).

Panels B to E present the results of t-test for the difference between the actual performance measure for firms with a bank nominee and the counterfactual performance estimated using coefficient estimates on firms without a bank nominee and the characteristics of the firms with a bank nominee.