The Sensitivity of Controlling Shareholders' Participation in Rights Offerings of Chinese Listed Firms to Bank Market Development[1]

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Abstract

We document significant positive relations between the level of bank market development across regions in China and controlling shareholders' participation in Chinese public companies' rights offerings, and evidence that the participation decision benefits minority shareholders. These results support the view that better bank market development has a firm-level corporate governance effect (Doidge et al. (2007)). To the extent corporate governance promotes firm-level economic efficiency and constitutes a key condition supporting stock market development, these results suggest bank market development has a within-firm effect in promoting economic growth (Levine (2005)), and a complementary relation with stock market development (Allen and Gale (2000)).

JEL classification: G30, G21, G28

Keywords: bank market development, corporate governance, rights offering

1 Introduction

Beginning with La Porta et al. (1997, 1998) a large body of research has shown that country-level institutional factors have a significant impact on firm-level governance.[1] Many of these studies use cross-country designs and analyze, at the country level, how legal regimes and enforcement affect firms' governance choices. We extend this research by providing evidence that bank market development, a key component of a country's financial market development, has an identifiable effect on firm-level governance choices that is distinct from other country-level factors. Specifically, we explore the effects of cross-region variation in bank market development in a single country, China, to provide direct evidence on the link between bank market development and firm-level governance decisions. Our setting allows us to separate bank market development from other country-level factors and to provide evidence on how characteristics of the Chinese banking system affect firm-level behavior. In addition to shedding light on how the level of bank market development affects corporate decisions, we believe that evidence on the Chinese banking system is important in its own right, both because of the significance of the banking system in China's economy and because of the significance of China in the world economy.

Banks are a vital channel between an economy's savings and its investments, and the source for the majority of external financing in most of the world, especially developing countries (e.g., Beck, Demirgüç-Kunt, and Maksimovic (2008)). However, the size of the banking market does not necessarily speak to the way that market operates, specifically, whether the bank market is developed in the sense that bank operations are intended to maximize efficiency and profitability by basing credit-granting on profitability not politics. We aim to provide evidence on the link between bank market

[1] La Porta et al. (1997, 1998) focus on the importance of country-specific legal regimes in shaping financial development. Extending this idea, Doidge, Karolyi, and Stulz (2007) show that country-level variables explain a significant portion of variation in firm governance choices, and Lerner and Schoar (2005) and Qian and Strahan (2007) find that country-level investor protection affects financial contracts between firms and venture capitalist and creditors.

development and the quality of firm-level governance. To the extent better corporate governance improves borrowers' operating and investment efficiency, evidence linking bank market development to firm-level governance points to the specific channel through which bank market development affects economic growth and real activities (Jayanthe and Strahan (1996)). In addition, to the extent strong corporate governance offers better minority shareholder protection and thereby encourages investor participation in the stock market, establishing a link between bank market development and firm-level governance arrangements can shed light on the interaction between bank market development and stock market development, an important determinant for a country's financial structure (Allen and Gale (2000)). Finally, to the extent country-level institutional factors affect financial market development (La Porta et al. (1997, 1998), Acemoglu and Johnson (2005)) and are correlated with long term country-level growth (Acemoglu, Johnson, and Robinson (2001)), evidence linking bank market development to firm-level governance can help explain the mechanism through which institutional factors influence growth.

The Chinese banking market provides a strong setting for our investigation, for several reasons. First, bank financing is the primary source of external corporate financing. China lacks a well-developed corporate bond market and access to the public equity market is highly regulated and often infeasible.[2] Second, China's banking system has, over time, been substantially transformed from a centralized, government-owned and controlled loan provider into an increasingly competitive market.[3] Because this transformation has been uneven across the 31 Chinese provinces, we are able to focus on variation in banking development across provinces in a given year while holding constant country-specific factors (for example, legal regime, regulation, and stock market development). Third,

[2] Chinese listed firms faced both stringent regulatory requirements and economic constraints in raising equity capital during our sample period, 1993-2005. From 1997-2009, the total proceeds from share issuances, including both initial offerings and seasoned offerings, accounted for less than 20% of the total amount of bank financing by all Chinese listed companies.

[3] Okazaki (2007) provides an excellent description of banking system reform in China.

China's banking market is localized within each province; there is no national syndicated loan market and all major banks are organized and managed by province (i.e., Shanghai Branch of Bank of China operates largely independently of Bank of China's Beijing Branch).[4]

The specific governance choice we examine is the decision of controlling shareholders of Chinese listed firms to participate in rights offerings. We view greater participation by controlling shareholders as an increase in the quality of governance, because greater participation narrows the gap between controlling shareholders' cash-flow rights and their control rights. Prior research demonstrates that a smaller gap between controlling shareholders' control and cash-flow rights reduces their incentives to take actions that benefit them at the expense of creditors and other, non-controlling shareholders.[5]

In contrast to research that measures firm-level governance using point-in-time subjective third-party ratings (e.g., S&P governance ratings) that rely on the assumption that certain governance practices are optimal both across firms and across jurisdictions,[6] we study a *change* in governance that is caused by an observable controlling shareholder decision. The decision to participate in a rights offering both imposes costs on the controlling shareholder and provides unambiguous benefits for other investors. The benefit is both direct, in that more participation infuses more equity capital to the offering firms and thereby reduces default risk, and indirect, in that participation improves governance by narrowing the gap between controlling shareholders' control rights and cash flow rights. Participation is particularly costly for controlling shareholders in Chinese public companies, because unlike minority shareholders, their shares were not freely tradable during our sample period, so they

[4] In principle a national bank may have general guideline that apply to all provincial branches. For example, Bank of China has traditionally specialized in financing exporters and importers. The day-to-day operations are mostly delegated to local branches (Martin (2012)). The regional focus of banking is not unique to China. Prior research has highlighted the importance of physical proximity in banks' lending decisions (e.g., Peterson and Rajan (1994), Guiso, Sapienza, and Zingales (2004)), Mian (2006)).

[5] Prior research has documented significant value consequences of the gap between controlling shareholders' control rights and cash-flow rights. For example, Claessens et al. (2002) and Lemmon and Lins (2003) find that firms with larger gaps are associated with lower market valuation. Lin et al. (2011) find a positive relation between the control-cash flow rights gap and firms' costs of debt.

[6] For example, Doidge, Karolyi, and Stulz (2007) discuss how more disclosure may not benefit minority shareholders in countries with expropriative governments.

could not realize benefits from either the discount typically embedded in the offering price or from stock price appreciation.

Finally, we believe that our results provide a lower bound on the beneficial effects of bank market development on firm-level governance choices. The reason is that our sample firms rely relatively less on bank financing than many Chinese firms, at least at the times of their rights offerings, both because they have issued equity in an IPO and because they have received regulatory approval for rights offerings.

In our setting, bank market development is the extent to which banks are operated with the goal of maximizing efficiency and profitability, by attracting deposits from savers and by basing bank credit-granting on profitability considerations not political considerations (Levine (2005)). We hypothesize that when banks are operated with the goal of profit and efficiency maximization, they have stronger incentives to assess the credit quality of potential borrowers and are more reluctant to lend to borrowers with governance arrangements that can adversely affect loan repayment. This behavior on the part of banks in turn provides firm insiders with stronger incentives to take actions to improve governance as a commitment to making efficient investment decisions, so as to gain better access to external capital (Jensen and Meckling (1976)). This hypothesis is consistent with the theoretical framework in Doidge, Karolyi, and Stulz (2007) which also predicts a positive relation between firm-specific governance and capital market development in general. The reasoning is that a more developed capital market provides more external funding, which in turn increases controlling shareholders' benefits from costly investment in improved governance. Whereas Doidge, Karolyi, and Stulz (2007) focus on the size/availability of funding from external capital markets, our hypothesis emphasizes the efficiency aspect of bank market development.

We proxy for the efficiency aspect of bank market development with the average of two indexes, calculated for each province-year. The first proxy, the percent of bank credit allocated to the private

sector, is commonly used in the literature (e.g., Liberti and Mian (2010)). It is based on the view that loans to state-owned enterprises (SOEs) are more likely to be made for political reasons as compared to loans made to non-SOEs (private firms). Our second proxy borrows from prior literature that measures country-level bank market development as the proportion of deposits owned by state-owned banks as opposed to by privately-owned banks (La Porta et al. (2002)). It rests on the assumption that state-owned banks operate less efficiently than privately-owned banks (Sapienza (2004)). Since China has no privately-owned banks, our (modified) measure is the percent of bank deposits controlled by four large banks that are majority-owned and directly-controlled by the central government (the Big Four), the Agricultural Bank of China, the Bank of China, China Construction Bank, and the Industrial and Commercial Bank of China. Other non-big four banks include joint stock commercial banks and city-level commercial banks with local government agencies as major stockholders. Our proxy is based on the assumption that, relative to other, non-big four banks, the Big Four are more likely to allocate deposit capital based on political considerations (Martin (2012)) and their operations are less efficient (Berger, Hanan, and Zhou (2009), Lin and Zhang (2009)).

Our main results are consistent with the predictions that controlling shareholders bear costs when they participate in rights offerings, that their participation is positively linked to bank market development, and that their participation benefits outside investors who hold tradable shares (tradable shareholders). The cost of controlling shareholder participation in a rights offering is evidenced by their average participation rate of about 50%, much lower than that of tradable shareholders, who participate nearly 100%. We find a positive relation between controlling shareholders' participation in rights offerings and our measure of bank market development, after controlling for factors specific to the offering firms (size, leverage, operating profitability, and growth potential), for factors specific to the offering itself (underwriting status, offering price), and for factors capturing the macro-environments of the local markets (GDP growth, overall industry growth potential). Finally, we find evidence that

controlling shareholder participation in rights offerings benefits the entire firm, including greater participation by other, noncontrolling holders of nontradable shares (that is, more equity capital), more positive stock price responses to the rights offering announcement, better operating performance up to two years following the offering and less tunneling in the form of paying dividends out of the offering proceeds.[7] That is, our results suggest that controlling shareholder participation in a rights offering both encourages good behavior, for example, participation by other holders of nontradable shares, and discourages bad behavior, for example, paying dividends out of rights offering proceeds.

We perform several additional analyses that provide evidence on the posited link between bank market development and firm-level governance decisions and thereby increase confidence in the validity of our inferences. First, we examine how the effect of bank market development on participation varies cross-sectionally with the degree of agency problems that discourage bank lending. We proxy the degree of these agency problems by private ownership and by the firm's existing bank debt, based on the idea that these firms have higher credit risk, arising from high leverage or a greater likelihood that firm insiders will take actions that reduce the probability loans will be repaid. Specifically, prior research shows that privately-owned listed firms are more susceptible to tunneling resources (Jiang, Lee, and Yue (2010)),[8] and that firms with higher levels of bank debt have greater default risk because decision makers in these firms face stronger incentives to choose risky investments at the expense of creditors (Jensen and Meckling (1976)). We find the effect of bank market development on controlling shareholders' participation in rights offerings is stronger in privately-owned firms and in firms with higher levels of bank debt. To the extent these firms face agency problems that discourage bank lending,

[7] Because all shareholders, not just the participating shareholders, receive any dividend payout following a rights offering, a non-participating controlling shareholder could harm other shareholders by causing a portion of the rights offering proceeds to be distributed as a dividend.

[8] That controlling shareholders in privately-owned firms are more likely to tunnel than in SOEs is consistent with the idea that the controlling shareholder of an SOE is not a person or a family but rather a government agency (an organization) that both has its own system of internal controls and is itself subject to additional levels of monitoring, thereby reducing the likelihood of such agency concerns. This is not to say that SOEs have no other agency issues; the point here is that the particular agency issue of concern to banks tends to be more severe in privately-owned firms than in SOEs.

these results are consistent with the interpretation that the relation between bank market development and controlling shareholders' participation in rights offerings stems from governance considerations.

Second, we examine how bank market development affects the participation decisions of other, non-controlling shareholders who hold non-tradable shares, and therefore face similar participation costs as the controlling shareholders. If the link between bank market development and controlling shareholders' participation is due to omitted correlated variables unrelated to governance considerations (for example, the offering firms' investment opportunities and growth potential), we should observe a similar positive relation between bank market development and the participation decisions of these non-controlling shareholders. We find that the average participation rate is less than 11% for these shareholders, suggesting they would incur significant costs from participation in the rights offerings. More importantly, unlike controlling shareholders, their participation rates are not statistically related to bank market development. Instead, they are positively related to the participation rates of controlling shareholders, more so for firms with more severe agency problems and for firms with greater reliance on bank loans. These findings suggest that the disciplinary role of bank market development operates by affecting controlling shareholders, whose behaviors have the most important effects on firms' operating and investment decisions.

Our last tests, based on a broad sample of all Chinese listed firms, provide support for two assumptions underlying our analysis. The first assumption, implicit in our assessment of the average relation between bank market development and controlling shareholders' participation, is that in more developed bank markets, controlling shareholders' ownership is an important governance factor in determining access to bank loans. The reasoning behind this assumption is that an underdeveloped, that is, inefficient, bank market will not value the beneficial role of governance in ensuring that loans will be repaid. The second assumption, implicit in our cross-sectional assessments of the sensitivity of participation to bank market development, is that more developed bank markets place higher value on

controlling shareholders' ownership in firms with weaker governance arrangements-in-place and with greater demand for bank loans.

We verify these assumptions by examining the sensitivity of bank loans to controlling shareholders' ownership for a broad sample of all Chinese listed firms. Consistent with the first assumption, we find that borrowing is sensitive to controlling shareholders' ownership, and more so in more developed bank markets. Consistent with the second assumption, we find that the sensitivity of borrowing to controlling shareholders' ownership is mostly driven by firms with more agency problems and firms with greater demand for bank loans. Taken together, these results suggest a demand for controlling shareholders' ownership, arising from agency considerations, for firms with weaker governance and greater need for bank financing, and this demand is stronger when the bank market is more developed.

Our paper contributes to the broad literature on the micro-level channels through which the macro-level association between financial market development and economic growth operates. While research on the banking sector has mostly focused on how bank market structure affects the efficiency of capital allocation across firms (e.g., Cetorelli and Gambera (2001), Black and Strahan (2002), Cetorelli and Strahan (2006)), we consider how bank market development affects banks' incentives to allocate capital efficiently, which in turn affects within-firm governance outcomes, specifically, a costly decision by controlling shareholders to participate in a rights offering. Our analyses provide evidence that the level of bank market development has effects beyond inducing better loan decisions and providing better monitoring. We show that bank market development has a real-action effect on whether controlling shareholders of Chinese listed nonfinancial firms participate in rights offerings during 1993-2005, and that the participation decision represents an improvement in corporate governance. Our results, therefore, support the existence of a specific corporate governance channel between bank market development and firm-level performance.

Relative to studies on the governance effects of banking relationships, the effect we study, macro-

level bank market development, is an ex ante effect, distinct from the ex post monitoring effect of a specific banking relationship. The ex ante effect operates by disciplining firms that would like to obtain future bank loans, whereas the ex post effect operates for firms that have obtained bank loans. The two effects are related, in that if ex-post bank monitoring is viewed as beneficial, firms will have incentives to improve their performance in order to obtain those benefits. The two effects differ in their policy and welfare implications, in that the ex post monitoring effect suggests a substitution relation between bank monitoring and other corporate governance mechanisms while the ex ante effect suggests a complementary relation, as supported by our evidence.

Our study also extends the literature examining the association between country-level measures of institutional development, such as property rights protection and legal enforcement, and firm-level governance (e.g., Doidge, Karolyi, and Stulz (2007)).[9] Because a country's institutional development and financial market development are correlated (La Porta, et al. (1997, 1998)), these documented associations cannot, by design, shed light on the mechanism or channel that links firm-level governance outcomes with the level of financial market development; our paper provides evidence of one such link.

Our finding that bank market development affects corporate governance also suggests a spillover effect: establishing a well functioning bank market facilitates the development of a stock market, because the latter depends on strong governance arrangements that protect minority shareholders and an efficient bank market provides incentives for those arrangements. The existence of such a spillover effect is pertinent to debates over the relative merits of bank-based or market-based systems for allocating financial capital (Levine (2005)). For example, the bank market-to-stock market spillover effect might be used as one input for evaluating proposals aimed at improving stock market development,

[9] Doidge, Karolyi, and Stulz (2007) find that country-specific factors such as property rights protection and economic development explain significant variation in cross-country firm-level governance choices. Aggarwal et al. (2010) find that non-U.S. firms invest less in costly governance mechanisms than their U.S. counterparts. Durnev and Kim (2005) show that the effect of institutional factors on firm-level governance varies cross-sectionally with firms' investment opportunities, demand for external financing, and ownership structures.

especially in emerging markets where the stock market itself is at an early stage of development.

The rest of the paper is organized as follows. Section 2 describes rights offerings in China. Section 3 describes the main test variables and our sample. Section 4 presents results on the effects of bank market development on controlling shareholders' participation in rights offerings, and Section 5 presents additional evidence on the consequences of that participation. Section 6 presents our conclusions.

2 Rights offerings in China

The rights issues in our sample are available only to holders of A shares of Chinese listed companies. These shares are issued as part of an IPO, are denominated in the Chinese currency (RMB) and are held mostly by domestic investors.[10] All A shares carry the same cash flow rights and voting rights, but differ as to tradability. Tradable shares, which can be freely exchanged, are issued to investors through IPO subscription at the government-approved IPO price, usually about 10-15 times the issuing firm's previous three-year earnings average. Non-tradable shares are issued to the controlling shareholders (which can be either a government-agency or a private entity), and other block holders (ususally affiliated with the controlling shareholders), often for a nominal price of RMB1 per share. These shares may be exchanged at negotiated prices, often with government approval, but they cannot be freely traded during our sample period (1993-2005).[11] All controlling shareholders in our sample firms hold non-tradable shares, which account for the majority of the shares. However, investors in tradable shares (minority investors) are the main providers of external equity financing to listed companies.

In a rights offering, existing shareholders have the option to purchase additional shares, usually

[10] Unless otherwise noted, "shares" or "stock" refer to A shares. From 2002, qualified foreign institutional investors (QFIIs) can also hold A shares, subject to government-approved quotas. Most QFIIs are large investment banks or brokerage firms (e.g., Goldman Sachs, Nomura Securities).

[11] Starting in 2005, the government allowed shareholders to negotiate the conversion of nontradable shares into tradable shares, usually with the nontradable shareholders giving concessions to the tradable shareholders such as a one-time cash dividend or less than 1-to-1 conversion rate (Li et al. (2011)). Most companies did not finish the conversion until 2006 (Chen et al. (2012)). We exclude from our sample five rights offerings approved after 2005; results are nearly identical to those reported if these five observations are included.

up to a fixed percentage of their existing holdings, at an offer price that is typically discounted from the current market price. All shareholders pay the same price. Because additional shares purchased by holders of non-tradable shares are also not tradable, holders of non-tradable shares do not benefit from the discount typically embedded in the offer price.

The China Security Regulatory Committee (CSRC) requires companies to obtain approval from their shareholders and the CSRC and to meet certain performance and disclosure criteria to qualify for a rights offering. To qualify, companies (1) must meet a return on equity (ROE) threshold in the three years prior to the proposed offering year (Chen and Yuan (2004));[12] (2) must wait at least one year after the previous offering; and (3) can issue at most 30% of the existing shares outstanding. The majority of our sample firms issued the maximum number of shares, probably because of general constraints on Chinese companies' ability to access the stock market during our sample period.

A typical rights offering starts with an announcement by the board of directors, usually describing the potential range of the offer price, and whether the controlling shareholders of the company plan to participate, although the extent of participation may not be stated. The proposal is submitted to shareholders at the annual meeting, during which some large shareholders may reveal whether they intend to participate. Upon shareholder approval, the company submits an application to the CSRC; if the application is approved, the next step is the issuance of a final prospectus and the announcement of the offer price.

Through 2001, rights offerings were an important source of equity capital for Chinese public companies. Table 1 shows the number of rights offerings in our sample by year of completion, amount (in RMB) raised in the offerings, and the proceeds from rights offerings as a percentage of all equity financing raised by public companies. This percentage reached nearly 75% in 1998, with proceeds totaling 33.5 billion RMB (about 4.2 billion USD). The number of rights offerings declined starting

[12] The ROE threshold varies each year and is lower for some industries such as the energy industry.

in 2002 when seasoned equity offerings became the primary mode of raising equity capital, consistent with patterns observed in other countries (Eckbo (2008)).

3 Data and sample description

3.1 Measure of bank market development

We proxy for the degree of bank market development, denoted $BANK$, as the average of two indices, each measured at the province-year level. The first index, *% deposit in non-Big 4 bank*, focuses on the liability side of the balance sheet and measures the fraction of total bank deposits in a province held by Non-Big Four banks. The Big Four banks are the Agricultural Bank of China, the Bank of China, China Construction Bank, and the Industrial and Commercial Bank of China. Other non-big four banks include joint stock commercial banks and city-level commercial banks with local government agencies as major stockholders. Motivated by prior research, we interpret this deposit market share index as capturing the profit seeking orientation of the banking sector within a given province. For example, Berger, Hasan and Zhou (2009) show that over the period 1994-2003 the Big Four exhibit significantly lower profit efficiency than the non-Big Four. Lin and Zhang (2009) find that during the period 1997-2004 Big Four banks are less profitable, less efficient, and have worse asset quality than non-Big Four banks. Similar evidence is documented for government-owned banks outside of China (e.g., La Porta et al. (2002)).

The second index, *% loans to private firms,* focuses on the asset side of the balance sheet and reflects the percentage of total bank loans in a province to non-SOEs (as opposed to SOEs). The idea underlying this index is that banking sectors that allocate more credit to private firms are more likely to have incentives to engage in researching and exerting corporate control over firms than are banks that act on behalf of the government to funnel credit to SOEs (e.g., Sapienza (2004), Liberti

and Mian (2010)). $BANK$ is the average of these two indices and captures the overall province-year measure of banking sector development in terms of the extent to which the bank's decisions about capital allocation are tied to profitability considerations not governmental-political considerations.[13]

We obtain these measures from the National Economic Research Institute (NERI) Index of Marketization of China's provinces constructed by Fan and Wang (2011), based on information from National and provincial Bureaus of Statistics.[14] The $BANK$ score captures both cross-sectional variation at any given year and over-time variation. Data are available from 1997 to 2005. We use the 1997 value for years prior to 1997. Our results are not sensitive to removing rights offerings before 1997.

Table 2 summarizes the $BANK$ index and its components by region (Panel A) and by year (Panel B). Each province's values are the over-time averages of the $BANK$ index and, separately, its two components for that province; the data are not weighted by the number of sample firms in each province. There is considerable across-province variation in both the $BANK$ index and its two components; Zhejiang has the highest value of the $BANK$ index (but not the highest value of each of its two components), followed by Shandong, Shanghai and Hainan. The province with the least developed bank market is Tibet, followed by Qinghai. The mean value of $BANK$ across regions is 6.02 and the range is 9.58 (Zhejiang) to 3.1 (Tibet). Similar patterns are observed for the two components of the index. With regard to over-time changes, Panel B of Table 2 shows that our proxies for bank market development throughout China have gradually improved over time, from 3.07 in 1997 to 6.94 in 2005, with similar patterns in the two component indexes.

[13] Bushman et al. (2013) discuss the distinction, in the Chinese banking context, between loans based on profitability considerations and loans based on political considerations. Briefly, banks that base their loans on profitability considerations screen applications more carefully and monitor borrowers more stringently than do banks that base their loans on political considerations. In our context, one key screening variable is the quality of firm-level corporate governance as an indicator that the loan will be repaid.

[14] Based on the value of each index in province i in year t (V_{it}), Fan and Wang assign a relative score to that province-year, calculated as $10*(V_{it}-V_{min,T})/|V_{max,T}-V_{min,T}|$ where $V_{max,T}$ and $V_{min,T}$ are the maximum and minimum values of V among all provinces in a base year T (2001). Therefore, the score is bounded between 0 and 10 in the base year and could be negative or greater than 10 in years other than the base year, with higher scores implying better developed bank markets.

Our research design assumes that the province-level bank lending and saver-attraction environment has immediate economic implications for our sample firms. This assumption rests on the prior finding that distance matters for bank lending (Petersen and Rajan (1994, 2002)) and banks in general prefer to lend to borrowers in close proximity, especially in less developed markets (Mian (2006)). We also believe this assumption is reasonable in our setting because a majority of our sample firms were originally owned by provincial governments, and their operations continue to be influenced by the local environment, particularly after the 1980s fiscal reforms when the central government delegated significant decision rights to the provincial governments. This decentralized structure, combined with competition among provincial governments to achieve high growth, led to local protectionism (Qian (2003), Jin, Qian, and Weingast (2005)), increasing the influence of the local environment. To the extent local environments do not matter for our sample firms, our province-specific measures of bank market development will contain measurement error that should bias against finding any results.

3.2 Sample description

Our sample contains 812 rights offerings by non-financial firms approved by the CSRC during 1993 to 2005, retrieved from the CSMAR (China Stock Market and Accounting Research) Database; also available from WRDS. Our sample includes 18 firms that did not complete approved rights offerings, because of unfavorable market conditions or the share reform that began in 2005. We include these 18 firms because we are interested in controlling shareholders' commitment to participate; results are qualitatively similar if we exclude them. The 812 approvals apply to 587 different firms, 399 of which had one issuance/approval, 155 of which had two, 29 had three and 4 had four issuance/approvals. Column 1 of Table 2 shows the distribution of our sample firms by province. All provinces are represented, with concentrations in Shanghai (115 observations) and Guangdong (106 observations),

where the two stock exchanges are located.[15]

The CSRC allows holders of non-tradable shares to use non-cash assets to pay for shares in the rights offerings, whereas holders of tradable shares must pay cash. We focus on participation rates in offerings in which controlling shareholders pay cash, $CSH\_PAR\%$, calculated as $I(Cash) * PART\_RATE$, where $I(cash)$ equals 1 if the controlling shareholders paid cash in the rights offering and $PART\_RATE$ is the controlling shareholders' participation rate.[16] We manually collect participation data for holders of tradable and non-tradable shares if the information is available from the issuing company. Otherwise, we impute the participation rate as the change in each shareholder group's holdings from before to after the rights offering, divided by the number of rights the group was allocated. For example, in 2001 Shanghai Tunnel Engineering Co. Ltd. (stock code 600820) issued rights to its shareholders at a ratio of 10 to 2.3, that is, 23%. The controlling shareholder Shanghai City Construction Group Ltd. could subscribe 62 million shares, or 23% of its existing ownership of 269 million shares (54.5% of outstanding shares). Its ownership increased by 2.8 million shares after the rights offering, implying a participation rate of 4.5% (=2.8/62).

Table 3 provides summary statistics for the test and control variables; definitions are in the Appendix. The cash participation rate of controlling shareholders averages 20.17%, ranging from zero to 100%; just over half the controlling shareholders did not participate at all. There is also variation in bank market development, $BANK$, among sample firms, with mean (standard deviation) of 3.62 (1.99). Not surprisingly, given China's history as a centrally planned economy, 82% of the sample firms are state-owned (in Table 3, *Private*, an indicator variable for whether the firm is privately-owned, averages 18%). Ownership is in general concentrated; the mean (median) of the controlling shareholder's ownership is 46.34% (45.74%). The mean (median) leverage ratio is 41.52% (41.27%), slightly

[15] Table 4, discussed later, shows that the main results are not sensitive to firms in Guangdong and Shanghai.

[16] When we repeat our tests using the unadjusted participation rate, results (not tabulated) are qualitatively similar to those reported.

below the average leverage of 44% in Chinese listed firms (calculated using all Chinese listed firms in our sample period). Because of the CSRC's requirements to qualify for rights offerings, our sample firms on average perform well, with mean values of $GrossMargin$ (the ratio of total revenue minus total cost of goods sold to total revenue) and ROA (the ratio of EBIT to assets) of 31.75% and 8.11%, respectively. 83% of the sample offerings were underwritten, with guaranteed subscriptions of tradable shares by investment banks, as captured by $Stand\_by$. The mean and median for $Offer\_Price$ (the ratio of the offering price to the share price one week before the rights offering announcement) are both 0.62, suggesting the rights offering price is discounted about 38% on average. This discount is a measure of the cost of controlling shareholders' participation, because their shares were not freely tradable in stock markets during our sample period.

4 Analysis and results

4.1 Empirical specification

If there is an optimal ownership structure to maximize firm value, it is unlikely to be observed in Chinese firms whose initial ownership structures were based largely on non-market factors. This is especially the case for state-owned firms, 82% of our sample observations. Rights offerings provide controlling shareholders a rare opportunity to adjust their share ownership, constrained by the 30% cap imposed by the CSRC on the shares that may be offered. Because of this constraint, the observed participation rate (between 0 and 100%) may not reflect the controlling shareholders' actual participation preferences, which may be negative (if they want to reduce their ownership percentages) or more than 100% (if they want to increase their ownership percentages). This implies that the observed

participation variable ($CSH\_PAR_{i,j,t}$) is a censored version of the true rate ($CSH\_PAR^{*}_{i,j,t}$) in that

$$\begin{aligned}
(Latent)\ CSH_PAR^{*}_{i,j,t} &= \beta Bank_{j,t-1} + \gamma Z_{i,j,t-1} + \lambda D_t + \varepsilon_{i,j,t} \\
(Observed)\ CSH_PAR_{i,j,t} &= CSH_PAR^{*}_{i,j,t} \text{ if } 0 < CSH_PAR^{*}_{i,j,t} < 100\% \\
&= 0 \text{ if } CSH_PAR^{*}_{i,j,t} \leq 0 \\
&= 100\% \text{ if } CSH_PAR^{*}_{i,j,t} \geq 100\%,
\end{aligned}$$

where $CSH\_PAR_{i,j,t}$ is the controlling shareholders' participation rate for firm i in region j for a rights offering in year t. $BANK_{j,t-1}$ measures the degree of bank market development in region j in year $t-1$. $Z_{i,j,t-1}$ is a vector of firm-level, offering-level, and province-level control variables. D_t is a year-indicator and $\varepsilon_{i,j,t}$ is the error term.

The majority of our analyses of shareholders' participation decisions, reported in Table 4, apply Tobit estimation with truncation points at both lower and upper bounds. For comparison and as a robustness check, we also present results from a Logit estimation (the dependent variable is an indicator variable for whether the controlling shareholders participate) and an OLS estimation. In all regressions, year indicators are included to control for year-fixed effects, and standard error estimates are adjusted for heteroskedasticity and correlations among firms from the same region (Peterson (2009)). All unbounded continuous variables are winsorized at the extreme 1% of values.

We include three sets of variables to control for other factors that may affect controlling shareholders' participation decisions. They include variables for province-year-specific characteristics, variables for firm-specific characteristics, and variables specific to each rights offering. Because our main variable of interest, $BANK$, is measured at province-year level, a potential concern is that it is capturing growth opportunities common to all firms in that province-year. We address this concern by including the province-year GDP growth ($GDPgrowth$) rate to control for general economic growth, and the

province-average ($Region\_MB$) and industry-average ($Industry\_MB$) market to book ratios of the sample firms to control for average growth opportunities.

We also include as control variables firm-specific characteristics $GrossMargin$, size ($Size$, the natural log of total assets), and leverage ratio ($Leverage$, the ratio of total liabilities to total assets). To the extent a higher gross margin suggests higher future profitability and higher returns to equity investors, we expect a positive coefficient for $GrossMargin$. Our results are qualitatively similar when we use return on assets (results not tabulated). We do not have predictions for the signs of $Size$ and $Leverage$.

To control for differences in controlling shareholders' characteristics we include $Private$ and $Large\_SH\%$ (the percentage of shares owned by the controlling shareholder), both calculated in the year prior to the offering. To the extent governance concerns are less severe in firms whose controlling shareholders own more shares and therefore would garner smaller benefits from the governance improvements induced by participation, we expect a negative coefficient estimate for $Large\_SH\%$. We include $Private$ to control for differences between decision rules governing controlling shareholders' participation in privately-owned firms and in state-owned enterprises (SOEs).

We also include two variables specific to each rights offering, the ratio of offer price of the rights offering to the firm's stock price one week before the public announcement of the rights offering ($Offer\_Price$) and an indicator variable for whether the underwriting investment banks guarantee subscription of the tradable shares ($Stand\_by$). We expect a negative coefficient for $Offer\_Price$ as higher offer prices mean higher costs of participation. Prior research shows that firms use costly stand-by arrangements when they expect low participation rates (Eckbo (2008)). The relation between $Stand\_by$ and controlling shareholders' participation in a rights offering can be negative to the extent that both are viewed as substitute methods to attract other shareholders' participation.[17]

[17] If the offer price, stand-by arrangements and participation decisions are jointly determined, including the offer price and the stand-by indicator variable may be problematic. We repeat our analyses without these variables, and find similar

4.2 The effect of bank market development on controlling shareholders' participation in rights offerings

Table 4 presents results of estimating the relation between controlling shareholders' participation in rights offerings and the level of bank market development. The table shows coefficient estimates, t-statistics in parentheses and the average partial effects of coefficients for the Tobit (in Column 1) and Logit (in Column 2) regressions, as percentages.[18] Consistent with our prediction, Column 1 shows that the effect of bank market development on controlling shareholder participation is positive, with the coefficient estimated at 1.802, reliably different from zero at less than 1% level (two-tailed). This effect is economically meaningful: the estimates indicate that an inter-quartile increase in the $BANK$ index (from 2.61 to 4.67, Table 3) would increase the participation rate of an average firm's controlling shareholder by 1.52%, a 18.8% increase over the unconditional mean of 8.09%.[19]

Column 2 of Table 4 shows the result of a Logit regression where the dependent variable is an indicator variable that takes the value 1 when the controlling shareholders participate by paying cash. The coefficient estimate on $BANK$ is 0.118, significant at better than the 1% level, indicating that controlling shareholders are more likely to participate in rights offerings when the level of bank market development is higher. The average partial effect is 2.63%, and the effect of an inter-quartile change in $BANK$ is 6%, representing a 12% increase relative to the average unconditional probability of participation (50.2%). Column 3 presents results of an OLS regression, for comparison purposes. The results show that the effect of bank market development on the participation decision is positive and significant at approximately the 13% level (two-tailed).

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results for the bank market development measure (results not tabulated). The coefficients for other independent variables remain qualitatively similar, with the significance level varying with the regression specification.

[18] The average partial effect is estimated as the empirical analogue to $E\left(\partial CSH\_PAR/\partial Bank\right)$ for Tobit and to $E\left(\partial \Pr\left(CSH\_PAR > 0\right)/\partial Bank\right)$ for Logit regressions (e.g., Wooldridge (2002), Bartus (2005)).

[19] The interquartile effect is the difference between the predicted value of the participation rate at the 75th percentile value of $Bank$ and at the 25th percentile value of $Bank$, holding other covariates at their sample mean values. The unconditional mean is the predicted participation rate holding all covariates at the sample average values.

Finally, to guard against the influence from provinces with a large number of offerings (e.g., Guangdong and Shanghai), we follow the approach in Liberti and Mian (2010) by estimating the Tobin regression using province-year observations only. Specifically, column 4 shows results of a province-level Tobit regression where the dependent variable is the average participation rate of all firms in the same province-year. The independent variables are $BANK$, GDP growth ($GDPgrowth$) and the average market-to-book ratios of all firms in that region-year ($Region\_MB$); all firm-specific variables are dropped. Results are broadly consistent with those obtained using firm-level regressions; the coefficient on $BANK$ is 1.735, significant at less than the 5% level (two-tailed), indicating that our results are not driven by provinces with proportionally larger numbers of rights offerings.

Table 4 also shows results for firm-specific characteristics and control variables; results from all three estimations are qualitatively similar. Specifically, controlling shareholders participate more in rights offerings of more profitable firms, as the coefficient estimates for $GrossMargin$ are positive and significant at better than the 5% level in Columns 1 and 2. The coefficient estimate for $Private$ is negative in Column 2 but not Column 1, suggesting that controlling shareholders of private firms are less likely to participate in rights offerings than controlling shareholders of SOEs. Firm size and regional-level or industry-level market-to-book ratios have no significant effects on controlling shareholders' participation decisions as the coefficient estimates for these variables are statistically indistinguishable from zero at conventional levels. As expected, controlling shareholders participate less when the offer price is high. Finally, $Stand\_by$ has a negative coefficient estimate in Column 2, but not Column 1.

4.3 Cross-sectional effects of bank market development

As previously discussed, theory predicts that better governed firms are more attractive to lenders; the implication in our setting is that the link between bank market development and controlling share-

holders' participation in rights offerings should be more pronounced in firms with more severe agency problems that discourage bank lending. Evidence of these predicted cross-sectional within-sample differences lends support to our main conclusions, that bank market development provides incentives to improve firm-level governance in order to improve the firm's access to future external financing. Specifically, we test the predictions that the effect of bank market development on controlling shareholders' participation in rights offerings is stronger for firms with weaker governance arrangements-in-place that would discourage future bank lenders. We measure such arrangements-in-place by two variables. The first is whether the controlling shareholder is a government agency or a private entity, and predict that the effect of bank market development is stronger for privately-owned firms. This prediction is based on prior research that shows controlling shareholders at privately-owned firms are more likely to tunnel resources out of listed companies for personal consumption (e.g., Jiang, Lee, and Yue (2010), Chen et al. (2012)). We also predict that the effect of bank market development is stronger for firms with high levels of bank loans, under the perspective that these firms are more constrained in their ability to obtain additional bank loans, perhaps because they have more incentive to take risky investments to benefit shareholders at the expense of creditors (Jensen and Meckling (1976)).

Table 5, Columns 1-2 report results of Tobit regressions of controlling shareholder participation rates on our measure of bank market development and control variables estimated in the subsamples of SOE firms and privately-owned firms. Results are consistent with our predictions. Specifically, column 2 shows that the coefficient estimate for $BANK$ is positive (at 6.524) and significant at the 1% level for privately-owned firms whereas column 1 shows that the coefficient estimate is not statistically distinguishable from zero for SOEs, with the difference in the two coefficient estimates statistically significant at less than the 1% level.

Columns 3-4 of Table 5 show the results of testing the prediction that the effect of bank market development is stronger for firms with more bank loans. We partition firms by the ratio of bank loans

to total assets ($LoanTA$) and find that the degree of bank market development is related to controlling shareholders' participation in rights offerings only for firms with above median values of $LoanTA$.[20] Specifically, for firms with below median values of $LoanTA$ (Column 3) the coefficient estimate for $BANK$ is 0.504 and statistically indistinguishable from zero at conventional levels, while for firms with above median values of $LoanTA$ (Column 4) the coefficient estimate is 3.126 and significant at better than the 1% level. The difference between the coefficients is statistically significant at less than the 1% level.

Taken together, the results in Table 5 are consistent with the idea that the effect of bank market development is stronger for firms with more severe agency problems that discourage future creditors. These results reinforce our main inferences, from Table 4, that stronger bank markets induce greater controlling shareholder participation in rights offerings, providing a firm-level governance improvement.

4.4 Participation decisions of other holders of non-tradable shares

We next analyze the participation decisions of non-controlling shareholders who also hold non-tradable shares, specifically, how those decisions are related to both our measure of bank market development and the participation decisions of controlling shareholders. Our aim in this analysis is to eliminate, or at least cast doubt on, an alternative explanation for our main finding that bank market development provides incentives for controlling shareholders to participate in rights offerings, thereby improving governance. If the positive relation between bank market development and controlling shareholders' participation is due to non-governance considerations (e.g., firms' investment opportunities and growth potential), we should observe a similar effect on non-controlling shareholders' participation decisions. On the other hand, if better bank market development induces *controlling* shareholders to participate in order to improve firm governance and thereby facilitate future access to external finance, we should

[20] We find qualitatively and quantitatively similar results (not tabulated) when we partition firms by their leverage ratios, calculated as the ratio of total liabilities to total assets.

expect no relation between bank market development and non-controlling shareholders' participation decisions. Furthermore, if controlling shareholders' participation improves firm governance and benefits other shareholders, we should observe more participation by non-controlling shareholders when controlling shareholders participate.

Table 6 presents the results from the analysis of the participation decisions of other holders of non-tradable shares. The dependent variable is the aggregate participation rate by all non-tradable shareholders other than the controlling shareholders, $NTRD\_PAR$. Since we do not observe whether other non-tradable shareholders participate by paying cash (versus paying with non-cash assets), we include an additional control variable $Noncash$ which equals 1 if non-cash participation is allowed for the rights offering and 0 otherwise. Because the extent of controlling shareholders' participation may not be known to the non-controlling shareholders when those shareholders make their participation decisions, we measure controlling shareholders' participation as an indicator variable equal to 1 if controlling shareholders participate (DUM_PAR).[21]

Columns 1-6 of Table 6 show there is no association between the degree of bank market development and the participation decisions of noncontrolling shareholders who hold non-tradable shares. The coefficient estimates for $BANK$ are not significant at conventional levels in any of the specifications. This result supports our interpretation of the main findings in Table 4, that the degree of bank market development provides *controlling* shareholders incentives to take actions to improve corporate governance; it does not support the alternative interpretation that our measure of bank market development simply captures certain unobserved characteristics unrelated to governance considerations (e.g., project profitability).

Column 2 of Table 6 suggests that controlling shareholders' participation decisions affect other non-tradable shareholders' participation rates. The coefficient estimate for DUM_PAR in column 2

[21] We obtain qualitatively similar results (not tabulated) using controlling shareholders' cash participation rates (CSH_PAR).

is 18.655, significant at the 5% level. The corresponding effect on the observed participation rate of other non-tradable shareholders is an increase of 12.1% when DUM_PAR changes from 0 to 1. Given the average participation rate of 10.54% for other non-tradable shareholders (see Table 3), these estimates suggest that controlling shareholders' decisions as to whether to participate have economically significant impacts on other non-tradable shareholders' participation decisions. The large impacts are to be expected: shares subscribed by non-tradable shareholders cannot be freely exchanged in the stock market, rendering non-tradable shareholders vulnerable to controlling shareholders' decisions. The effect also provides direct evidence for the beneficial effect of controlling shareholders' participation in rights offerings, as more participation by other non-tradable shareholders provides more capital to the listed firms to reduce financial constraints.

Furthermore, results from Columns 3-6 show that the positive effect of controlling shareholders' participation on non-controlling non-tradable shareholders' participation decisions is mostly driven by the subsamples of privately-owned firms and firms with higher percentages of assets financed by bank loans. These results are consistent with the idea that controlling shareholders' participation is viewed by non-controlling shareholders as welfare improving, especially in firms with weak governance-in-place that discourage external financing.

4.5 Effects of bank market development on the sensitivity of bank loans to controlling shareholders' ownership

An assumption underlying our assessment of the average relation between bank market development and controlling shareholders' participation in rights offerings is that in more developed bank markets, controlling shareholders' ownership is an important governance factor affecting access to bank loans. The reasoning behind this assumption is that an underdeveloped, that is, inefficient, bank market will not value the beneficial role of governance in ensuring that loans will be repaid. A second assumption,

implicit in our cross-sectional assessments of the sensitivity of participation to bank market development, is that more developed bank markets place a higher value on controlling shareholders' ownership in firms with weaker governance arrangements-in-place that discourage bank lenders.

In Table 7, we present analyses to verify these assumptions by examining the sensitivity of bank loans to controlling shareholders' ownership for a broad sample of all Chinese listed firms over our sample period, 1997-2005. Specifically, we estimate the following equation:

$$Loan_{i,j,t} = \alpha_i + \beta_t + \delta_1 Large\_SH\%_{i,j,t} + \delta_2 BANK_{jt-1} * Large\_SH\% + \delta_3 BANK_{jt-1} + Controls + \varepsilon_{it}$$

where $Loan_{i,j,t}$ is the amount of bank borrowing by firm i in region j during year t (scaled by total assets at the beginning of year t), $Large\_SH\%_{i,j,t}$ is the percentage of shares owned by the controlling shareholders, and $BANK_{j,t-1}$ is the bank market index. The control variables include $Region\_MB$ and $Industry\_MB$; $GDPgrowth$; profitability (measured by ROA, return on assets); $Size$ and $TobinQ$. Firm- and year- fixed effects are included in the regressions and standard errors are clustered at the firm level.

Columns 1-2 show the results from estimating the above equation for the broad sample of Chinese listed firms. Column 1 shows that the coefficient estimate for $Large\_SH\%$ is positive but statistically indistinguishable from zero. In Column 2, the specification that includes an interactive term yields a positive coefficient for $BANK * Large\_SH\%$, significant at less than the 10% level. These estimates suggest that controlling shareholders' ownership level is an important consideration in firms' ability to obtain bank loans, but only in more developed bank markets. This result is consistent with the first assumption discussed above, that only when the bank market operates with the objectives of seeking profitability and maximizing efficiency will the beneficial role of governance in ensuring that loans be repaid be valued. As such, bank market development provides controlling shareholders with incentives

to incur costs to participate in a rights offering to improve firm governance.

Columns 3-6 of Table 7 present the results from estimating the loan-to-ownership sensitivity for the subsamples of SOEs and privately-owned firms and for the subsamples of firms partitioned by their bank loan ratios. Consistent with the second assumption, we find that while more developed bank markets put more emphasis on controlling shareholders' ownership in their loan decisions, that emphasis is mostly confined to firms with weak existing governance that reduces the firms' appeal to bank lenders (privately-owned firms and firms with above median values of $LoanTA$). Specifically, the coefficient estimates for $BANK * Large\_SH\%$ are statistically indistinguishable from zero at conventional levels in column 3 (SOE firms) and column 5 (firms with low levels of bank loans) and are positive and significant at the 10% level or better in columns 4 (private firms) and 6 (firms with high levels of bank loans).

Taken together, these results suggest that banks place a positive value on controlling shareholders' ownership levels, arising from agency considerations, for firms with weaker governance and greater need for bank financing, and the effect is stronger when the bank market is more developed. These results support two assumptions underlying our prediction that controlling shareholders' participation in rights offerings is viewed as an improvement in firm-level governance arrangements, and can improve firms' chances of obtaining future bank loans.

5 Consequences of controlling shareholders' participation in rights offerings

A maintained assumption of our analysis is that controlling shareholders' participation in a rights offering provides benefits to the firm as a whole. To the extent that greater shareholder participation in rights offerings benefits offering firms with positive NPV projects by providing more equity capital,

our results on the positive effect of controlling shareholders' participation on other nontradable shareholders' participation provides evidence supporting this assumption. In this section, we provide two additional pieces of supporting evidence. We first show that controlling shareholders' participation is associated with a positive stock price reaction, suggesting that holders of tradable shares perceive controlling shareholders' participation as a positive signal. We also find that controlling shareholders' participation is positively related to firms' post-offering performance and negatively related to firms' post-offering tunneling activities, consistent with the interpretation that controlling shareholder participation is indeed beneficial.

5.1 Effects on stock price reactions to announcements of rights offerings

Table 8 presents evidence on the determinants of cross-sectional variation in stock price reactions to announcements of rights offerings; these announcements include controlling shareholders' participation decisions but not necessarily the level of participation. We hand-collect these announcement dates from public disclosures or regulatory filings. We calculate cumulative stock returns (CAR) from five days prior to the announcement to two and five days after the announcement, adjusted for an equally weighted market index of both the Shanghai and Shenzhen stock exchanges. We regress these market-adjusted returns on controlling shareholder cash participation rates, CSH_PAR, offering price and an indicator variable capturing underwritten offerings, $Stand\_by$. Results are similar for the two event windows; the coefficient estimates for CSH_PAR are approximately 0.01, significant at the 5% level. These estimates suggest that a one-standard-deviation increase in a firm's controlling shareholders' participation rate increases the share price response by about 0.33% at the announcement of the rights offering, representing more than a 50% gain (compared to the average stock response of 0.63-0.68% reported in Table 3). Results for $Offer\_Price$ and $Stand\_by$ indicate that higher offering prices reduce the positive price response to announcements of rights offerings, and the presence of an

underwriter has no statistically reliable effect.

5.2 Effects on post-offering firm behaviors

We further analyze the welfare consequences of controlling shareholders' participation in rights offerings by examining two post-offering outcomes, post-offering performance and tunneling. If controlling shareholders' participation in rights offerings benefits minority shareholders, we expect participation to be associated with better performance and less tunneling. We measure firm performance by return on assets (ROA) and tunneling activities by post-offering dividend payouts (Div_Ratio, the ratio of dividends paid to earnings). Although paying dividends is often viewed as benefiting minority shareholders, it is less desirable when firms have growth opportunities and are in general short of investment capital (La Porta et al. (2000)), as is likely the case for our sample firms. Further, because all shareholders receive dividends based on ownership, when controlling shareholders who do not participate in a rights offering decide to pay a dividend immediately after the offering, that dividend is likely to be paid from offering proceeds, making the dividend a tunneling device that is detrimental to minority shareholders.

Table 9 presents results from OLS regressions of measures of post-offering performance and tunneling on controlling shareholder participation, CSH_PAR, our measure of bank market development, $BANK$,firm-specific characteristics (size, leverage, market to book ratio, and past performance) and the indicator variable $Private$ to control for differences between SOEs and private firms. Columns 1-2 report a positive relation between controlling shareholders' participation in a rights offering and firms' post-offering performance (ROA). The coefficient estimate for CSH_PAR in year t is 0.60%, significant at the 10% level, suggesting that compared to firms whose controlling shareholders do not participate in rights offerings, firms whose controlling shareholders fully participate have 0.6% higher ROA in year t, a 7% improvement over the sample mean of 8.11%. The positive effect continues to

year $t+1$, where the coefficient is 0.7%, significant at the 5% level.

In Columns 3-4, the dependent variable is Div_Ratio for year t (the year the rights offering is completed, typically one or two years after the offering was proposed) and year $t+1$, respectively. To control for the effects of firm-specific dividend policies, the independent variables also include the dividend payout ratio in the year before the rights offering. Results are that greater controlling shareholder participation in rights offerings is associated with lower dividend payouts in the offering year and the following year. The estimates imply that compared to firms where the controlling shareholders do not participate in rights offerings, a firm whose controlling shareholders fully participate has a lower dividend ratio; results are significant at the 10% level or better. The reduction is about 5.4% and 7.7% for year t and year $t+1$, representing respectively more than 16.6% and 23.6% decreases relative to the average dividend ratio of 32.6%. In untabulated results, we also examine the relation between controlling shareholders' participation and firms' investment decisions as measured by capital expenditures, $CAPEX$. We find that controlling shareholders' participation is positively related to $CAPEX$ in year t, but not to $CAPEX$ in year $t+1$.

The positive relations between controlling shareholder participation in rights offerings and both reduced tunneling and improved performance are consistent with participation as an incentive-aligning mechanism: greater controlling shareholders' participation better aligns their interests with those of minority shareholders, leading to better outcomes for those minority shareholders.

6 Conclusion

The idea that a market mechanism for allocating resources disciplines firms and induces better decisions has a long history, being traceable to Adam Smith. We provide empirical evidence on how this mechanism actually functions, in a setting that considers shareholder behavior, not just firm behavior. Specifically, we analyze the degree of bank market development, defined as the extent to which bank

lending decisions are based on profitability considerations and not political considerations, as a channel that induces controlling shareholders of Chinese listed firms to behave in ways that improve firm-level governance and benefit minority shareholders. Our setting is controlling shareholders' decisions as to whether to participate in Chinese listed firms' rights offerings during 1993-2005. Controlling shareholders incur costs from participation because, during our sample period, their shares were non-tradable, so they could not benefit from the substantial discount to market price typically included in the rights offering price. However, their participation in a rights offering is a clear move to align their interests with those of minority shareholders.

Our results provide evidence that in better developed bank markets, controlling shareholders participate more in rights offerings, and their participation benefits other investors, at a private cost to the controlling shareholders. Our research design measures the degree of bank market development at the province-year level, so we are able to hold constant minority shareholder de jure protection at the national level, and focus on how the degree of bank market development fosters actions that provide de facto minority shareholder protection. We find that the effect of bank market development is stronger in privately-owned firms and firms with greater reliance on bank credit. We also find that greater controlling shareholder participation in a rights offering is associated with reduced tunneling behavior and better operating performance after the rights offerings. Consistent with these results, we also document a positive relation between controlling shareholders' participation decisions and both the stock price response to the announcements of rights offerings and the participation decisions of other shareholders holding non-tradable shares.

We believe that the effects of bank market development on controlling shareholder behavior should be particularly pronounced in our setting, for two reasons. First, insiders of Chinese firms have access to few credible firm-level voluntary commitment devices, since most firm-level governance arrangements are heavily regulated at the national level. This is especially true for the ownership

structures which are largely unchanged after the IPO because most of the shares are non-tradable. Therefore, participation in a rights offering is a rare opportunity for controlling shareholders to improve governance arrangements. Second, compared to developed countries, because China's national-level de jure protection of minority shareholders is weak, any market mechanism is expected to play a relatively more important role, and de jure protection is expected to play a relatively less important role, in affecting the provision of de facto protection.

Our results provide micro-level evidence on how the degree of bank market development can provide a channel for providing de facto protection to outside (noncontrolling) investors. To the extent institutions that protect private property rights help build better market mechanisms, our results offer micro-level evidence on what supports the country-level correlation between institutional development and stock market development documented in prior literature (La Porta et al. (1998)). Our results suggest that policies directed at improving the functioning of the bank market mechanism for allocating resources can have a spillover effect, for example, on stock market development.

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Table 1: Sample Description

This table reports the distribution of 812 rights offerings approved by the China Security Regulatory Committee (CSRC) from 1993 to 2005. Data on proceeds from total equity financing (including Initial Public Offerings, Rights offerings and Seasoned Equity Offerings) are from *China Finance Year Book*.

Year	Number of rights offerings approved by the CSRC	As a % of the total number of listed firms	Total proceeds from rights offering (billion RMB)	As a % of total equity financing
1993	7	4.29	8.58	21.73
1994	3	1.12	5.02	15.35
1995	47	16.15	6.28	41.80
1996	54	11.37	6.99	16.44
1997	95	14.12	17.09	13.21
1998	149	19.28	33.50	74.93
1999	118	13.59	32.10	57.70
2000	165	16.25	51.95	37.40
2001	109	9.70	43.06	71.24
2002	18	1.39	5.66	8.10
2003	20	1.56	7.48	7.57
2004	23	1.36	10.45	6.92
2005	4	0.15	0.26	0.14
Total	812	8.49	228.42	28.66

Table 2: Description of Bank Market Development in Regions (Provinces) of China and Over Time

This table reports the number of rights offerings by province during 1993-2005 and province-level means of the composite bank industry development index *BANK* and its components by province (Panel A) and by year (Panel B). All variables are defined and described in the Appendix.

Panel A: Bank market development by province

Province	#obs	% of sample	% deposit in non-Big 4	% loan to private firms	*BANK*
Anhui	19	2.34	5.30	7.42	6.36
Beijing	38	4.68	6.12	5.96	6.04
Chongqing	8	0.99	7.77	6.74	7.26
Fujian	30	3.69	4.42	9.56	6.99
Gansu	12	1.48	3.96	5.50	4.73
Guangdong	106	13.1	6.94	8.25	7.60
Guangxi	7	0.86	3.58	6.90	5.24
Guizhou	7	0.86	4.37	5.09	4.73
Hainan	10	1.23	2.89	7.42	5.16
Hebei	21	2.59	5.93	7.89	6.91
Henan	15	1.85	6.98	6.79	6.88
Heilongjiang	23	2.83	3.38	3.75	3.57
Hubei	42	5.17	5.57	5.43	5.50
Hunan	22	2.71	5.48	6.94	6.21
Inner-Mongolia	15	1.85	3.64	5.52	4.58
Jilin	31	3.82	5.22	3.52	4.37
Jiangsu	37	4.56	6.76	10.13	8.45
Jiangxi	13	1.60	4.76	6.33	5.55
Liaoning	26	3.20	7.80	6.59	7.20
Ningxia	10	1.23	5.26	6.58	5.92
Qinghai	7	0.86	0.62	6.00	3.31
Shandong	45	5.54	7.94	7.70	7.82
Shanxi	15	1.85	4.40	7.53	5.97
Shaanxi	16	1.97	5.91	7.00	6.46
Shanghai	115	14.2	9.70	7.82	8.76
Sichuan	36	4.43	4.14	7.00	5.57
Tianjin	15	1.85	6.59	6.26	6.42
Tibet	4	0.49	-2.84	9.04	3.10
Xinjiang	15	1.85	2.05	5.69	3.87
Yunnan	8	0.99	5.60	5.91	5.75
Zhejiang	44	5.42	8.67	10.48	9.58
Total/Mean	812	100	5.21	6.84	6.02

Panel B: Bank market development by year

Year	% deposit in non-Big 4 banks	% loan to private firms	*BANK*
1997	3.46	2.68	3.07
1998	3.66	2.93	3.29
1999	3.85	3.27	3.56
2000	4.17	4.03	4.10
2001	4.49	4.37	4.43
2002	4.48	5.27	4.88
2003	5.02	6.63	5.83
2004	5.68	7.52	6.60
2005	5.57	8.32	6.94
Mean	5.21	6.84	6.02
Standard deviation	2.92	3.96	2.94

Table 3: Descriptive Statistics

This table reports summary statistics of all variables for the sample of 812 rights offerings by Chinese public companies during 1993-2005. All variables are defined and described in the Appendix. Variables in the *Regional development in economy and bank market* section and *control variables* are measured in the year prior to the rights offering application. *Consequence variables* are in the year the rights offering is completed.

Variable	N	Mean	STD	p5	p25	p50	p75	p95
Shareholder participation in rights offerings								
CSH_PAR（%）	812	20.17	33.47	0.00	0.00	0.00	22.67	100.0
DUM_PAR	812	0.50	0.50	0.00	0.00	0.00	1.00	1.0
NTRD_PAR (%)	811	10.54	27.07	0.00	0.00	0.00	1.31	100.0
Regional development in bank market and economy								
BANK	787	3.62	1.99	0.00	2.61	3.80	4.67	6.65
Region_MB	784	4.37	1.26	1.89	3.56	4.49	5.26	6.23
GDPgrowth (%)	782	12.62	8.33	3.07	6.98	10.44	16.97	29.95
Control variables								
Private	800	0.18	0.38	0.00	0.00	0.00	0.00	1.00
Large_SH %	800	46.34	18.21	17.26	31.60	45.74	61.62	74.88
Size	793	20.55	0.84	19.33	19.95	20.47	21.06	21.99
Leverage (%)	792	41.52	15.42	15.59	31.36	41.27	52.21	66.92
GrossMargin (%)	785	31.75	20.14	11.11	18.22	26.07	39.24	75.70
Stand_by	811	0.83	0.38	0.00	1.00	1.00	1.00	1.00
Offer_Price	796	0.62	0.20	0.26	0.48	0.62	0.77	0.92
Noncash	812	0.17	0.38	0.00	0.00	0.00	0.00	1.00
Industry_MB	784	4.37	1.15	2.12	4.00	4.43	4.97	6.19
Consequence variables								
CAR (-5,2) (%)	810	0.63	6.70	-8.88	-3.30	-0.10	3.36	12.55
CAR (-5,5) (%)	810	0.68	7.89	-9.34	-3.94	-0.31	3.97	15.05
Div_Ratio (%)	812	32.56	43.22	0.00	0.00	20.55	54.90	106.45
ROA (%)	790	8.11	4.51	3.13	5.73	7.55	9.62	16.03

Table 4: Effect of Bank Market Development on Controlling Shareholder Participation in Rights Offerings by Chinese Listed Firms

This table shows the results from regressions of the controlling shareholders' participation in rights offering on regional bank market development. The dependent variable is *CSH_PAR* (the cash participation rate of controlling shareholders in rights offerings) in all columns except column 2, where the dependent variable is an indicator variable for whether the controlling shareholders participated by paying cash (*DUM_PAR*). Columns 1, 2 and 3 estimate the effect of regional bank market development (*BANK*) on firm-level participation by Tobit, Logit and OLS regressions, respectively; column 4 estimates the effect on the average participation rate of all firms in the same region-year. Variable definitions are in the Appendix. Standard errors are adjusted for heteroskadasticity and correlation among firms of the same province. T-statistics are in parentheses. The average partial effects (APE) for Tobit and Logit estimations are reported below the t-statistics. ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively, in two-tailed tests.

	Firm level regression			Regional level regression
	Tobit	Logit	OLS	Tobit
	(1)	(2)	(3)	(4)
BANK	**1.802*** **	**0.118*** **	**0.545**	**1.735** **
	(2.80)	**(2.68)**	**(1.60)**	**(2.20)**
	1.55%	2.63%		1.53%
GDPgrowth	0.530	0.051***	0.190	0.494
	(1.60)	(2.59)	(1.39)	(0.83)
	0.46%	1.14%		0.36%
Region_MB	-1.622	-0.081	-0.235	1.103
	(-1.44)	(-0.90)	(-0.40)	(0.55)
	-1.40%	-1.80%		3.78%
Industry_MB	-1.181	-0.033	0.062	
	(-0.37)	(-0.21)	(0.05)	
	-1.02%	-0.73%		
GrossMargin	0.159**	0.014***	0.042	
	(2.22)	(3.72)	(1.03)	
	0.14%	0.32%		
Large_SH%	-0.075	-0.004	-0.046	
	(-0.90)	(-0.74)	(-1.29)	
	-0.07%	-0.09%		
Private	-1.975	-0.564***	0.355	
	(-0.42)	(-2.66)	(0.16)	
	-1.68%	-12.53%		
Size	-0.578	0.045	-0.562	
	(-0.51)	(0.42)	(-0.99)	
	-0.50%	1.01%		
Leverage	0.173*	0.008	0.057	
	(1.70)	(1.04)	(1.21)	
	0.15%	0.18%		

Stand_by	-5.158	-1.034***	-0.714	
	(-1.32)	(-4.60)	(-0.35)	
	-4.64%	-23.0%		
Offer_Price	-0.236***	-0.016***	-0.108***	
	(-3.45)	(-3.18)	(-3.72)	
	-0.20%	-0.35%		
Constant	-4.858	-1.733	18.350	-30.70*
	(-0.18)	(-0.73)	(1.63)	(-1.76)
Year fixed effects	Yes	Yes	Yes	Yes
Observations	751	751	751	200
Pseudo R^2 / Adjusted R^2	0.018	0.085		0.031
Unconditional mean	8.09%	50.24%	n.a.	9.22%

Table 5: Cross-Sectional Variations In the Effect of Bank Market Development on Controlling Shareholder Participation in Rights Offerings by Chinese Listed Firms

This table shows the results from Tobit regressions of the controlling shareholders' participation rates in rights offerings (*CSH_PAR*) on regional bank market development, *BANK*, for subsamples partitioned by ownership structure and the degree of financing by bank loans. The subsamples of SOEs and private firms and of firms with below (above) median levels of the ratio of bank loan to total assets (*LoanTA)* are used in columns 1-2 and 3-4, respectively. All variable definitions are in the Appendix. Standard errors are adjusted for heteroskadasticity and correlation among firms of the same province. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5%, and 10% level, respectively, two-tailed tests.

	Dependent variable: *CSH_PAR*			
	SOE	Private	Low loan	High loan
	(1)	(2)	(3)	(4)
BANK	**0.687**	**6.524*** **	**0.504**	**3.126*** **
	(0.90)	**(4.95)**	**(0.68)**	**(3.67)**
GDPgrowth	0.267	1.066	0.670	0.418
	(0.84)	(1.01)	(1.41)	(0.87)
Region_MB	-0.398	3.739	1.427	-1.914
	(-0.24)	(0.86)	(0.67)	(-0.97)
Industry_MB	-0.794	-1.604	-0.666	-4.592
	(-0.25)	(-0.27)	(-0.16)	(-1.57)
Gross Margin	0.162*	0.397	0.058	0.126
	(1.92)	(1.20)	(0.52)	(1.28)
Large_SH%	-0.097	-0.044	0.022	-0.232**
	(-1.34)	(-0.16)	(0.17)	(-2.23)
Private	NA	NA	-7.275	2.032
	NA	NA	(-0.80)	(0.36)
Size	-0.491	5.860	-0.787	0.857
	(-0.33)	(0.91)	(-0.34)	(0.40)
Leverage	0.135	-0.053	0.500***	-0.389*
	(1.07)	(-0.17)	(3.25)	(-1.95)
Stand_by	-5.210	-11.995	-14.682***	2.361
	(-1.26)	(-1.35)	(-4.11)	(0.54)
Offer_Price	-0.168**	-0.649*	-0.012	-0.580***
	(-2.11)	(-1.93)	(-0.10)	(-3.39)
Constant	0.134	-180.088	-9.533	15.228
	(0.00)	(-1.30)	(-0.25)	(0.35)
Year fixed effects	Yes	Yes	Yes	Yes
Chi-squared test of equal coefficients on *Bank*	13.83***		6.78***	
Observations	625	126	376	375
Pseudo R^2	0.011	0.079	0.018	0.048
Unconditional mean	8.23%	7.42%	8.48%	7.97%

Table 6: Effect of Bank Market Development and Controlling Shareholder's Participation on Other Shareholders' Participation in Rights Offerings by Chinese Listed Firms

This table shows the results from Tobit regressions of the participation rates in rights offerings by non-controlling shareholders who hold nontradable shares on regional bank market development, *BANK*, for subsamples partitioned by ownership structure and the degree of bank financing. The subsamples of SOEs and private firms and of firms with below (above) median level of the ratio of bank loan to total assets (*LoanTA)* are used in columns 3-4 and 5-6, respectively. All variable definitions are in the Appendix. Standard errors are adjusted for heteroskadasticity and correlation among firms of the same province. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5%, and 10% level, respectively, in two-tailed tests.

	Dependent variable: NTRD_PAR					
	Whole sample		SOE	Private	Low loan	High loan
	(1)	(2)	(3)	(4)	(5)	(6)
DUM_PAR		**18.655****	**8.642**	**87.164****	**4.861**	**29.825****
		(2.55)	**(1.09)**	**(2.29)**	**(0.47)**	**(2.49)**
BANK	**-0.253**	**-0.638**	**-1.785**	**6.230**	**-3.184**	**0.859**
	(-0.14)	**(-0.36)**	**(-1.18)**	**(0.72)**	**(-0.82)**	**(0.57)**
GDPgrowth	0.611	0.415	0.482	-0.200	1.208	-0.121
	(0.80)	(0.56)	(0.63)	(-0.05)	(0.91)	(-0.11)
Region_MB	-1.491	-1.155	-0.810	-0.431	-6.408	0.436
	(-0.40)	(-0.30)	(-0.21)	(-0.03)	(-0.93)	(0.13)
Industry_MB	1.344	1.360	-1.479	14.662	-0.427	4.284
	(0.35)	(0.34)	(-0.31)	(1.31)	(-0.05)	(1.01)
Gross Margin	0.264	0.237	0.115	1.467	0.520	-0.052
	(1.01)	(0.95)	(0.38)	(1.38)	(1.19)	(-0.18)
Large_SH%	-0.890***	-0.899***	-0.802***	-1.756	-0.968***	-0.714*
	(-3.41)	(-3.53)	(-3.42)	(-1.39)	(-3.20)	(-1.90)
Private	-11.576	-8.537	NA	NA	-29.146	5.396
	(-0.87)	(-0.65)	NA	NA	(-1.14)	(0.50)
Size	4.385	4.208	2.662	27.399	11.908	-1.862
	(0.72)	(0.69)	(0.49)	(1.05)	(1.38)	(-0.29)
Leverage	-0.171	-0.187	-0.198	0.525	-0.273	0.002
	(-0.64)	(-0.71)	(-0.87)	(0.40)	(-0.50)	(0.00)
Offer_Price	-1.022***	-0.994***	-0.745***	-2.642***	-1.078***	-0.819***
	(-5.51)	(-5.31)	(-3.90)	(-2.73)	(-3.07)	(-3.73)
Noncash	35.577***	31.858***	35.015***	4.339	46.385***	17.983
	(4.62)	(4.03)	(4.15)	(0.08)	(4.21)	(1.46)
	25.931%	22.945%	26.156%	2.35%	33.14%	12.67%
Constant	-66.9	-66.7	-25.6	-659.2	-216.9	37.2
	(-0.56)	(-0.56)	(-0.24)	(-1.15)	(-1.29)	(0.28)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Chi-squared test for equal DUM_PAR in subsamples			3.68*		2.17	
Observations	750	750	624	126	376	374
Pseudo R^2	0.024	0.026	0.022	0.098	0.038	0.027
Unconditional mean	11.3%	11.2%	11.2%	8.2%	11.1%	10.3%

Table 7: Effect of Bank Market Development on the Sensitivity of Bank Loans to Corporate Governance for Chinese Listed Firms

This table shows the results from regressions of bank loans (*Loan*) on corporate governance and its interaction term with bank market development, *BANK*, for subsamples partitioned by ownership structure and leverage. Corporate governance is measured as the controlling shareholder's shareholding (*Large_SH%*). Column 1 shows the results for the whole sample. The subsamples of SOEs and private firms, and of firms with below (above) median level of *LoanTA* are used in columns 2-4 and 5-6, respectively. All variable definitions are in the Appendix. Standard errors are adjusted for heteroskadasticity and correlation among firms of the same province. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5%, and 10% level, respectively, two-tailed tests.

	Dependent variable: Bank loan					
	Whole sample	Whole sample	SOE	Private	Low loan	High loan
	(1)	(2)	(3)	(4)	(5)	(6)
Large_SH%	0.009	-0.064	-0.013	-0.282**	-0.020	-0.096
	(0.23)	(-1.21)	(-0.27)	(-2.53)	(-0.35)	(-1.31)
BANK×Large_SH%		**0.014***	**0.007**	**0.032****	**0.005**	**0.016***
		(1.78)	**(0.94)**	**(2.06)**	**(0.50)**	**(1.83)**
BANK	-0.355	-0.959**	0.198	-0.144	-0.449	-0.388
	(-1.63)	(-2.30)	(0.53)	(-0.19)	(-0.91)	(-0.79)
GDPgrowth	0.111	0.107	0.160**	0.320**	0.060	0.141
	(1.48)	(1.44)	(2.26)	(2.16)	(0.68)	(1.41)
Region_MB	0.255	0.214	0.300	0.524	-0.056	0.175
	(0.73)	(0.61)	(0.88)	(0.69)	(-0.14)	(0.36)
Industry_MB	1.693***	1.566***	1.984***	-0.457	0.971*	1.517**
	(3.36)	(3.08)	(3.94)	(-0.54)	(1.70)	(2.16)
Private	-0.058	0.046	NA	NA	0.454	1.370
	(-0.05)	(0.04)	NA	NA	(0.32)	(1.00)
ROA	0.154***	0.153***	0.033	0.245***	0.056	0.195***
	(3.87)	(3.85)	(0.87)	(3.68)	(1.26)	(4.29)
Size	1.016**	1.032**	0.771*	2.124**	-0.082	1.266*
	(2.36)	(2.40)	(1.92)	(2.00)	(-0.19)	(1.82)
TobinQ	-0.640	-0.670	-0.143	-1.718*	-1.655***	0.534
	(-1.51)	(-1.58)	(-0.34)	(-1.77)	(-3.92)	(0.88)
Year Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Chi-squared test of *BANK x Large_SH%*				3.30*		0.45
Observations	6855	6855	5253	1602	3029	3826
Adjusted R^2	0.502	0.501	0.522	0.516	0.455	0.453

Table 8: Market Reaction to Controlling Shareholders' Participation in Rights Offerings of Chinese Listed Firms

This table shows the effects of controlling shareholders' participation rates (*CSH_PAR*) on the stock price reaction to announcements of rights offering. All models are estimated with OLS regression. The dependent variable in column 1 (2) is the cumulative abnormal return (*CAR*) over the period 5 days prior to the announcement to 2 (5) days after the announcements. See the Appendix for all variable definitions. Standard errors are adjusted for heteroskadasticity and correlations of all firms in the same province. T-statistics are provided in parentheses. ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively, two-tailed tests.

Dependent variable	CAR[-5,2]	CAR[-5,5]
	(1)	(2)
CSH_PAR	**0.010***	**0.011***
	(1.93)	**(2.04)**
Offer_Price	-0.032*	-0.049**
	(-1.79)	(-2.66)
Stand_by	-0.191	-0.008
	(-0.48)	(-0.01)
Constant	2.593	3.748**
	(1.54)	(2.05)
Observations	777	777
Adjusted R^2	0.012	0.018

Table 9: Effects of Controlling Shareholders' Participation in Rights Offerings of Chinese Listed Firms on Firms' Post-Offering Performance and Dividend Payouts

This table shows the effects of controlling shareholders' participation rates (*CSH_PAR*) on post-offering firm performance and dividend payouts. The dependent variables are *Div_Ratio* and *ROA* in columns 1-2 and 3-4, respectively. Subscript *t* (*t+1*) indicates the year of (after) the completion of a rights offering. All independent variables are measured at one year prior to the approval of rights offerings. Variable definitions are in the Appendix. Standard errors are adjusted for heteroskadasticity and correlations of all firms in the same province. T-statistics are shown in parentheses. ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively, two-tailed tests.

Dependent variable	ROA_t	ROA_{t+1}	Div_Ratio_t	Div_Ratio_{t+1}
	(1)	(2)	(3)	(4)
CSH_PAR	**0.006***	**0.007****	**-0.054***	**-0.077****
	(1.87)	**(2.28)**	**(-1.77)**	**(-2.20)**
BANK	-0.053	0.091	1.565*	0.656
	(-1.00)	(1.46)	(2.02)	(1.05)
Private	0.075	-0.316	-9.630***	-9.075***
	(0.31)	(-1.04)	(-2.78)	(-3.06)
Lag Div_Ratio			0.116***	0.143***
			(2.89)	(3.72)
TobinQ	0.385***	0.245***	0.494	-0.107
	(8.28)	(4.53)	(0.82)	(-0.18)
Lag ROA	0.413***	0.509***	0.536	1.033***
	(12.40)	(11.05)	(1.14)	(2.77)
Size	0.106	0.685***	3.580**	5.158**
	(0.81)	(3.42)	(2.22)	(2.22)
Leverage	-0.039***	-0.061***	-0.231*	-0.121
	(-5.41)	(-4.52)	(-1.90)	(-1.16)
Constant	2.576	-11.058**	-38.102	-78.784
	(0.85)	(-2.26)	(-1.09)	(-1.56)
Year fixed effects	Yes	Yes	Yes	Yes
Observations	774	777	777	780
Adjusted R^2	0.45	0.35	0.03	0.07

Appendix: Variable definitions

Variables	Description
Shareholder participation in rights offerings	
CSH_PAR (%)	Controlling shareholder's participation rate in the rights offering, measured as the number of shares subscribed with cash by controlling shareholders divided by the number of rights they are allocated.
DUM_PAR	A dummy variable that equals 1 if CSH_PAR is greater than 0 and zero otherwise.
NTRD_PAR (%)	Participation rate by non-controlling shareholders who hold non-tradable shares in the rights offering, measured as the number of non-tradable shares subscribed by non-controlling shareholders divided by the number of rights they are allocated.
Regional development in bank market and in economy	
BANK	Average of the index values of % deposit in private banks and % loans to non-state owned firms.
Region_MB	Province-year average of market-to-book ratio for all listed firms in the same province. Market-to-book ratio is calculated as year-end stock price divided by book value of equity per share at year end.
GDPgrowth	Growth rate of GDP per capita.
Control variabless	
Private	A dummy variable that equals 1 if the controlling shareholder is not a government agency and zero otherwise.
Large_SH%	Percentage ownership of the controlling shareholder.
Size	Natural log of total assets.
Leverage (%)	Debt divided by total assets.
GrossMargin (%)	Gross margin divided by sales revenue.
Stand_by	A dummy variable that equals 1 if the underwriting investment banks guarantee subscription of the tradable shares.
Offer_Price	The offer price of the rights offering, divided by the closing stock price one week before public announcement of the rights offering
Noncash	A dummy variable that equals 1 if controlling shareholders do not use cash to participate and zero otherwise.
Industry_MB	Industry-year average of market-to-book ratio. Market-to-book ratio is calculated as year-end stock price divided by book value of equity per share at year end.
LoanTA	Bank loan divided by total assets.
High / Low Loan	A firm is classified as a high loan firm if its value of *LoanTA* exceeds the sample median and as a low loan firm otherwise.
Consequence vaiables	
CAR(t, t+n) (%)	Cumulative abnormal stock return between date *t* and *t+n* adjusted by an equal-weighted market index for both the Shanghai and Shenzhen stock exchanges.
Div_Ratio (%)	Cash dividends per share divided by earnings per share.
ROA (%)	Earnings before interest and taxes (EBIT) divided by year-end total assets.
Variables used to test loan-to-corporate governance sensitivity	
Loan	Bank borrowing divided by total assets.
TobinQ	The sum of market value of equity and book value of liabilities divided by total assets. The value of non-tradable shares is calculated as the book value per share multiplied by the number of non-tradable shares.