

# Bank Loans with Chinese Characteristics: Inside Debt, Firm Quality, and Market Response

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4<sup>th</sup> March 2009

## Abstract

Under an enriched notion of "inside debt", state-controlled banks may lend to both viable borrowers and to weak firms to avert unemployment and social instability. Confirming our model's prediction if weak borrowers are prevalent, we find significantly negative event-study responses for Chinese borrowers, unlike positive responses previously found for U.S. borrowers. Negative responses typify borrowers with frequent related-party transactions, poor subsequent performance, high state ownership, loans from the four major state banks or local bank branches, or loans to repay existing debt. Poorer financial performance and higher managerial expenses increase the likelihood of obtaining bank loans. Our results demonstrate how the stock market reflects the conflicting goals and resulting consequences for bank and borrower performance of reforming a transitional financial system.

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## 1. Introduction

In supplying capital to firms, financial markets feature institutions and practices intended to mitigate problems such as transactions costs, information asymmetries, and agency conflicts, and to adapt to the regulatory environment. Much research focuses on the purposes that banks serve. Banks can intermediate the maturity preferences of lenders and borrowers (Diamond and Dybvig 1983, Rajan 1996). As a form of “inside” debt, bank loans may solve information and agency problems that public bond issues or other “outside” debt cannot (Fama 1985, Rajan 1992). If, for example, managers cannot perfectly communicate their information to capital market participants (Myers and Majluf 1984), banks may serve a very important intermediating role between savers and borrowers.

The notion that banks are special because they produce information about borrowers has motivated some interesting empirical research. If firms can choose between bank debt and public debt, and if banks can mitigate information problems, raising money with a bank loan, instead of a public issue of bonds or other securities, should be a positive signal, particularly for newer, smaller, or otherwise information-poor borrowers. Consistent with the information role of bank debt, stock market responses to announcements of a bond issue are typically zero or slightly negative (Eckbo 1986) but announcements of bank loans typically yield significantly positive abnormal returns for the borrower’s stock (Mikkelson and Partch 1986, James 1987). Furthermore, this effect appears stronger for high quality lenders (Billet, Flannery, and Garfinkel 1995), loan renewals (Lummer and McConnell 1989, Best and Zhang 1993), smaller borrowers (Sloven, Johnson, and Glascock 1992), borrowers with high dispersion in expected earnings or negative earnings realizations (Best and Zhang 1993), and loans with particularly demanding covenants (Demiroglu and James, 2007). Aintablian and Roberts (2000) validate the positive

bank loan announcement effect using data from Canadian capital markets. Harvey, Lins, and Roper (2004) find positive abnormal returns for emerging-market borrowers who obtain internationally-syndicated term loans, with most prominent effects for subsequent, rather than first, loans and for firms with certain governance characteristics.<sup>1</sup> These results suggest that, when banks and prospective borrowers are independent and profit-maximizing, banks do indeed serve to generate information as suggested by “inside debt” theories of banking and bank loans. Banks give loans only to creditworthy firms, and approval of a bank loan is perceived by the stock market as a good signal, particularly for information-poor borrowers. Renewals or subsequent loan approvals may compound this effect.<sup>2</sup>

Some recent studies examine the impact of government ownership of banks on lending practices, particularly in emerging markets with low per-capita income, weak financial systems, and more government influence on the economy. Government ownership appears to hinder financial development (La Porta, Lopez-de-Silanes, and Shleifer, 2002) and is associated with heightened lending in election years (Dinc, 2005). The terms of lending differ between state-owned banks and private banks. Electoral results appear to affect the lending behavior of state-owned banks (Sapienza, 2004) and borrowing and default may be higher for firms with political connections (Khwaja and Mian, 2005).

While the bank loan literature has enhanced our understanding of the workings of inside debt in highly developed capital markets and the role of politics on lending in less developed economies, it is unclear how a bank’s certification role differs when both lenders and borrowers are controlled by the state in an environment with severe information asymmetry. In this paper,

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<sup>1</sup> They also report positive abnormal returns for international bond issues, echoing Kim and Stulz (1988).

<sup>2</sup> However, the notion of inside debt does not explain everything. Negative abnormal stock returns and poor operating performance are often observed for a few years after the announcement of a bank loan (Billett, Flannery, and Garfinkel 2006), though this may depend on the frequency rather than the form of capital-raising (Billett, Flannery, and Garfinkel 2008).

we study an enriched notion of inside debt in the context of China's banking system, a unique laboratory with which to study bank loans in an alternative environment. Economists, policy-makers, business managers, and investors continue to follow with great interest the rapid evolution of China's economic and financial system starting with the ascension of Deng Xiaoping as the country's leader in 1978. Under "Socialism with Chinese Characteristics", demand for banking services has skyrocketed, but the banking system is troubled. Chinese banking is dominated by state-owned banks, operates in an uncompetitive environment, and faces much pressure to contribute to political and social stability.<sup>3</sup> Perhaps as a consequence, Chinese banks continue to be plagued with substantial amounts of non-performing loans.<sup>4</sup> The web page of the Chinese Banking Regulatory Commission<sup>5</sup> reports a total of 1.268 trillion yuan (about 174 billion U.S. dollars, or 6.17% of total loans) of non-performing loans on the books of commercial banks at the end of 2007. Other estimates of the problem are even larger. Asset management companies formed by the Chinese government have liquidated substantial volumes of bank assets at heavy discounts. Poorly-performing state-owned enterprises are the heaviest borrowers.<sup>6</sup>

More generally, the poor state of law, regulation, and disclosure in China's capital market is a severe constraint on the efficiency of banks and borrowers.<sup>7</sup> Recent research has shown that Chinese listed companies are subject to mismanagement and outright theft in the form of "tunneling" by controlling shareholders.<sup>8</sup> Furthermore, the limitations of the markets for public

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<sup>3</sup> See Dinc (2005), and Brown and Dinc (2005), for studies of political influences on banks in developing countries.

<sup>4</sup> Podpiera (2006) reports that the ratios of non-performing loans (NPLs) to total loans for the four major state banks are 25.6%, 20.1%, and 15.6% in 2002, 2003, and 2004, respectively.

<sup>5</sup> <http://www.cbrc.gov.cn/english/home/jsp/index.jsp>.

<sup>6</sup> Podpiera (2006) finds that state-owned commercial banks lend significantly more in provinces with lower enterprise profitability. This suggests that the lending decisions of these banks have been policy-driven.

<sup>7</sup> See Anderson (1999) for a case study of how Brazil's bond market has adapted to an underdeveloped environment.

<sup>8</sup> See, for example, Jian and Wong (2003), Jiang, Lee, and Yue (2005), and Cheung, Jing, Rau, and Stouraitis (2006) on the use of "tunneling", loans, and other related-party transactions to extract value from Chinese listed companies.

securities makes it difficult for firms to raise money with equity or public debt (Allen, Qian, and Qian 2005) as the stock market is relatively small and corporate bond issues are almost unheard of.<sup>9</sup> Thus, a Chinese firm largely relies on retained earnings and bank loans for finance, regardless of whether the firm is healthy or distressed.

Our paper exploits China's unique setting to develop further evidence on whether banks are "different" and, in particular, how they carry out their hypothesized certification role in an environment that combines rapid economic growth with very underdeveloped capital markets. Our findings are of interest to a variety of academics, policy-makers, and practitioners, and contribute to problems ranging from improving banking law and regulation to pricing bank stock issues such as the recent large bank IPOs from China. First, we present a simple model in which state-owned banks have objectives beyond profit maximization, and both "good" and "bad" borrowers may obtain bank loans. As in Akerloff (1970), informationally-disadvantaged stock market investors cannot distinguish between good and bad borrowers. A pooling equilibrium reflecting the average quality of borrowing firms results, and, in particular, the stock price of a firm may react negatively to the announcement that the firm has received a bank loan. Second, we test several hypotheses about the effect of bank loan announcements with event-study reactions and cross-sectional differences in borrower, lender, and loan characteristics. In addition, we investigate the factors that affect the likelihood of receiving a bank loan. We also examine long-term borrower performance following loan announcements as well as lenders' stock price reaction.

A brief summary of our findings is as follows. Using bank loan announcements for all listed companies in China from 1999 to 2004, we find significant declines in stock prices of

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<sup>9</sup> Listed companies can make a seasoned offering if three-year average ROE is above 6%, but issuance procedures are typically complicated for companies seeking immediate external finance.

Chinese borrowers at times of such announcements. This is consistent with our theoretical prediction. The negative effect is typical for borrowers with frequent related-party transactions, poor subsequent performance, high state ownership, no foreign class shares, loans from the four state banks, loans from local bank branches, or loans intended to repay existing debt. We also find that poorer financial performance and higher managerial expenses increase the likelihood of obtaining bank loans, which accords with negative average price reactions under our theoretical framework. Furthermore, approval of a bank loan predicts poor subsequent accounting performance. Supplemental data for companies that display increased long-term loans on the balance sheet but no loan announcements confirm this finding. Finally, for the small number of loans originating from listed banks, we find no evidence that the lender's stock price drops at the time a loan is announced. Our evidence suggests that, under an enriched notion of inside debt, a bank loan announcement no longer sends a clear-cut positive signal about the borrower's prospects. Instead, investors must condition their assessment of the borrower's value on other firm, loan, and lender characteristics.

This paper is organized as follows. Section 2 briefly describes China's banking system. Section 3 presents a model and testable hypotheses that embrace both the existing literature and the peculiarities of China's banking system. Section 4 describes the data we have gathered and the sample selection criteria employed. Section 5 presents empirical results, while Section 6 is a summary and agenda for future research.

## **2. An overview of China's banking system**

China's banking sector has been the primary source of financing for China's growing economy, with the banking and credit industry accounting for over 80 percent of China's financial assets. The outstanding amount of bank loans is significantly greater than that of equity

or corporate bonds. At the end of 2004, for example, total bank loans comprised 138.1% of GDP while the combined market value of China's two stock exchanges was only 27.1% of GDP.<sup>10</sup> Raising money with corporate bonds, rather than bank loans, is almost unheard of.<sup>11</sup> With bank loans accounting for 87% of total funds raised by China's non-financial sector as of June 2006, bank lending remains the dominant source of financing in China's economy.

Under its traditional communist system, China's government collected revenues from state-owned enterprises and provided financing to those firms according to the state budget. Eventually, the allocation of financing to firms was organized as bank loans from the Peoples Bank of China (PBOC) and, starting in the late 1970s, from the four newly-established state-owned specialty banks, as well as joint-equity banks, city commercial banks, policy banks, and rural credit co-operatives.<sup>12</sup> Though their share of bank loan activity is declining, the Big Four state-owned banks still hold over 50% of the banking sector's assets as of June 2006. Joint-equity banks and city commercial banks account for nearly 16% and 6% of the sector's assets, respectively, while other financial institutions such as policy banks and rural credit co-operatives hold the remaining assets.<sup>13</sup>

As a result of politically-oriented lending practices and the lack of repayment guarantees, the Big Four state-owned banks have historically been plagued by large ratios of non-performing

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<sup>10</sup> Federal Reserve Bank of Dallas report, issue 4, July/August 2005.

<sup>11</sup> Corporate bond issuance began in 1984 and, by 1986, 10 billion yuan (\$1.2 billion) in face value was outstanding. However, many companies defaulted, leading to social unrest and subsequent government limitations on bond issuance to a small number of large state-owned enterprises. Currently only about a dozen such bonds trade on securities exchanges. Other barriers to issuing corporate bonds include high issuer qualifications, illiquidity, poor creditor protection in bankruptcy, and cheaper equity financing.

<sup>12</sup> Four state-owned commercial banks (China Industrial and Commercial Bank, Bank of China, China Construction Bank, and Agricultural Bank of China) were formed to replace the mono-bank system and separate commercial lending from central banking functions. Joint-equity banks are incorporated as limited companies and typically feature a state-dominated shareholding structure. City commercial banks evolved from urban credit co-operatives with business mainly in the city of location. Given strong ties to local governments, they typically obtain their deposits from local governments and corporations, and suffer high loan concentration and related party transactions. Other types of banks include policy banks, rural credit co-operatives, postal savings, and branches of foreign banks.

<sup>13</sup> Deutsche Bank Research, China Special, December 7, 2006.

loans (NPLs) to total loans. Under the current tax regime, both lenders and borrowers receive favorable tax treatment. Banks can, in general, deduct losses from bad loans and contributions to a bad loan reserve account from pre-tax income. Actual bad loan losses are written off against the reserve and any excess can be subtracted from pre-tax income.<sup>14</sup> Borrowers can fully deduct interest on bank loans from pre-tax income.<sup>15</sup> In recent years, the government has been implementing a series of reforms to improve the efficiency and profitability of the state banks, particularly given the impending opening of the domestic financial sector to foreigners under the WTO. First, a large percentage of bad loans have been transferred from the state banks to wholly state-owned asset management corporations (AMCs) in return for bonds guaranteed by the Ministry of Finance.<sup>16</sup> Second, three of the Big Four state banks have changed from wholly state-owned to corporations owned by shareholders, though the state remains the largest shareholder. Shareholder meetings, boards of directors, board of supervisors, and other western-style governance measures have been adopted. Perhaps most significantly, the government has allowed foreign investors (typically global financial services firms) to take minority ownership stakes in the state banks, loosening foreign ownership ceilings in the hope that foreigners will provide additional capital, technology, and management skill.<sup>17</sup> Lastly, three of the Big Four have recently gone public in Hong Kong, with China Construction Bank listed in Hong Kong in 2005, and Bank of China and Industrial and Commercial Bank of China listed in Hong Kong and Shanghai in 2006. Public listing is intended to improve management, governance, transparency

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<sup>14</sup> “Policy Details for Pre-tax Deduction of Bad Loan Losses in Financial Companies,” State Tax Bureau of China, Policy No. 4, 2002.

<sup>15</sup> People’s Republic of China Corporate Income Tax, Provisional Code, December 13, 1993.

<sup>16</sup> Given the poor cash recovery rate (less than 25%) on these bad loans, the government is effectively transferring large amount of funds to the state banks. In some cases, there were direct cash injections. In 2003, for example, Bank of China and China Construction Bank each received US\$22.5 billion from China’s foreign reserves.

<sup>17</sup>In 2005, for example, Bank of America Corporation and Temasek invested \$3.0 billion and \$2.5 billion for approximately 9 and 6 percent ownership in China Construction Bank. The deal included one seat on the board of directors and transfer of some staff.

and, ultimately, profitability. Beyond the state banks, reforms have also extended to joint-equity banks and city commercial banks, a number of which have obtained foreign partners or listing on mainland or Hong Kong stock exchanges.

In spite of these efforts, many problems remain in China's banking system. The ownership shares of foreign strategic investors are relatively small and their involvement in governance is still minimal. The banking system is still dominated by state-owned enterprises, and bank lending continues to be driven by the availability of funds, not borrower profitability.<sup>18</sup> China's banks remain largely constrained by government intervention at different levels and subject to substantial political influence, and continue to lack sound credit-risk analysis and effective monitoring of borrowers. Dobson and Kashyap (2006) provide anecdotal evidence that government influence on bank loan decisions is still widespread despite the substantial progress of reform. As they suggest, banks in China are forced to meet contradictory goals of supporting employment and changing themselves into modern commercial banks.

A symptom of the continuing problems in China's financial system are the highly publicized cases of embezzlement of corporate funds from listed companies through "related party transactions" (also known as "connected transactions") with controlling shareholders. Controlling shareholders extract assets or cash from a listed company to another private company mostly through self-dealing transactions. Existing studies have found a negative impact of related party transaction on listed companies' share value. For example, Cheung, Jing, Rau, and Stouraitis (2005) find that Chinese firms with higher state ownership experience more negative excess returns at the announcement of related party transactions. A variation on this "tunneling" directly involves the banking system: a listed company uses bank loans to obtain funds that are subsequently transferred, via related party transactions, to its parent company or

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<sup>18</sup> See Podpiera (2006) for details.

other related privately-held company. In some particularly notorious cases, the controlling shareholder subsequently sold off the heavily-indebted listed company.

### **3. Theory and testable hypotheses**

#### **3.1 The signaling effect of bank loans under different ownership regimes**

Unlike directly placed debt whose terms depend only on public information, the bank loan decision and loan covenants are based on both public information and the information from costly monitoring. Banks have incentives to expend resources to investigate and monitor borrowers to produce valuable information and alleviate moral hazard. For example, Diamond (1984) suggests that banks exist because they can evaluate and monitor borrowers efficiently, addressing the “free rider” problem and thereby reducing information asymmetry. Since banks enjoy information advantages relative to outside investors, bank loans are viewed as inside debt that may enhance a borrowing firm’s value by reducing information asymmetries and monitoring firm performance. Thus, previous studies have explained positive bank loan announcement effects with the notion of inside debt.

However, this logic implicitly assumes that banks are independent corporations governed by shareholders with the objective of value maximization. In a transitional economy like China’s, banks have historically been state-owned, and may pursue goals beyond value maximization. State-owned banks have been obliged to provide loans to keep firms afloat in order to maintain employment and, ultimately, social stability given China’s lack of a well-functioning social “safety net”.<sup>19</sup> Furthermore, Chinese banks may be pressured to issue loans to serve the political goals of local governments.

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<sup>19</sup> See Bai, Li, Tao, and Wang (2000) for a theory of state enterprise reform that captures the production versus social stability trade-off.

In financial markets with transparent and exclusive ownership structures, Diamond (1991) shows that borrowers with credit ratings toward the middle of the spectrum have an incentive to seek monitoring and hence rely on bank loans. Borrowers with very high or low credit ratings typically do not need bank monitoring. In China, however, state ownership of banks and lack of alternative financing vehicles compel state-controlled firms regardless of quality to seek bank loans as the primary form of external financing. Healthy firms with growth opportunities easily obtain bank loans as value maximization is one objective of the banks, and distressed firms may also receive bank loans given the political mandate of the state-owned banks. Given state ownership of both banks and borrowers coupled with the lack of enforcement of bankruptcy procedures, bank loans are frequently not serviced or repaid. Furthermore, interest rates on bank loans are regulated by the government and are not effectively linked to borrower credit ratings, giving weak firms further incentives to seek bank loans. Firms may also obtain bank loans due to contacts with, or pressure from, various levels of government. Under these circumstances, the signaling value of bank loans is no longer obvious. Next, we present a model of the valuation effect of bank loan announcements in a pooling equilibrium that reflects the average quality of the borrowers financed by bank loans. An intriguing and intuitive consequence of our model is that the stock market's assessment of a borrower's value can react *negatively* to a loan announcement.

### **3.2 A pooling equilibrium for the bank loan announcement effect**

We begin by assuming that there are two types of firms seeking external finance. High quality firms have a good credit rating and positive NPV projects, while low quality firms do not have positive NPV projects and are unlikely to be able to service their debt. Low quality firms

have a value,  $\underline{V}$ , which is distributed as  $\underline{V} \sim G(\Omega)$  with mean  $\mu_L$  and variance  $\sigma_L^2$ . Similarly, high quality firms have a higher market value,  $\bar{V}$ , with distribution  $\bar{V} \sim G(\mu_H, \sigma_H^2)$ .

Independently-governed profit-maximizing banks would not lend to a low quality firm. However, when both banks and borrowing firms have mutually inclusive or connected state ownership, banks may lend not only on the worthiness of the borrower's investment projects but also for other political motivations. Both high and low quality firms may obtain bank loans. From the point-of-view of stock market traders who are informationally disadvantaged, high and low quality firms cannot be distinguished and a pooling equilibrium that reflects the probabilities that high or low quality firms can obtain bank loans prevails in the stock market.

Because stock traders cannot distinguish whether firms that obtain loans are high or low quality, they do not know the exact value of a firm. We assume that the market value of a firm,  $V$ , is a random variable that follows a mixture distribution with probability  $\beta$  that the firm is low quality ( $\underline{V}$ ) and probability  $1 - \beta$  that the firm is high quality ( $\bar{V}$ ). Therefore,  $V$  from the point-of-view of stock market traders can be expressed as:

$$V = \beta \underline{V} + (1 - \beta) \bar{V}, \quad \text{where } 0 < \beta < 1 \quad (1)$$

The ex ante mean and variance of firm value from the market's point-of-view are:

$$EV = \beta E\underline{V} + (1 - \beta) E\bar{V} = \beta \mu_L + (1 - \beta) \mu_H \quad (2a)$$

$$\text{Var}[V] = \beta^2 \sigma_L^2 + (1 - \beta)^2 \sigma_H^2 \quad (2b)$$

Assume that a bank loan announcement is a random event from the point-of-view of stock market participants. Let "loan" equal 1 if a bank loan is issued or 0 otherwise. We assume that the prior probabilities that high and low quality firms get bank loans are as follows:

$$P(\text{loan} = 1 | V = \bar{V}) = \text{Pr}_H, \quad P(\text{loan} = 0 | V = \bar{V}) = 1 - \text{Pr}_H \quad (3)$$

$$P(\text{loan} = 1 | V = \underline{V}) = \text{Pr}_L, \quad P(\text{loan} = 0 | V = \underline{V}) = 1 - \text{Pr}_L$$

If stock traders are Bayesians, the loan event causes them to update their beliefs about firm value. Hence, the conditional probabilities that a firm is low quality or high quality given the firm gets a bank loan are:

$$P(V = \underline{V} | \text{loan} = 1) = \frac{\beta \text{Pr}_L}{\beta \text{Pr}_L + (1 - \beta) \text{Pr}_H} = \beta' \quad (4a)$$

$$P(V = \bar{V} | \text{loan} = 1) = \frac{(1 - \beta) \text{Pr}_H}{\beta \text{Pr}_L + (1 - \beta) \text{Pr}_H} = 1 - \beta' \quad (4b)$$

Thus, the posterior expected firm value can be expressed as follows:

$$E(V | \text{loan} = 1) = \beta' \mu_L + (1 - \beta') \mu_H < \beta' \mu_H + (1 - \beta') \mu_H = \mu_H = E\bar{V} \quad (5)$$

Finally, the incremental change in the expected value is:

$$\Delta EV = E(V | \text{Loan} = 1) - EV = \Delta\beta(\mu_L - \mu_H) = \frac{\theta^2}{\beta \text{Pr}_L + (1 - \beta) \text{Pr}_H} (\text{Pr}_L - \text{Pr}_H)(\mu_L - \mu_H) \quad (6)$$

In equation (6),  $\theta^2 = \beta(1 - \beta)$ , and  $\theta^2 > 0$  with  $0 < \beta < 1$ . By construction,  $\mu_L < \mu_H$ , so we have  $(\mu_L - \mu_H) < 0$ . Thus, if  $\text{Pr}_L < \text{Pr}_H$ , then  $\Delta EV > 0$ . This means that the expected market value of firms announcing bank loans increases if the probability of a loan issued to a high quality firm is higher than that of the probability of a loan to a low quality firm, as would be the case in a “normal” environment where the loan decision is based purely on value maximization. In contrast, if  $\text{Pr}_L > \text{Pr}_H$  as we suspect is the case for China, then  $\Delta E < 0$ . The expected market value of firms announcing bank loans declines if low quality firms are more likely to obtain bank loans.

Thus, we may observe the seemingly perverse outcome of negative market responses to bank loan announcements if bank lending is not purely dependent on borrower quality and information asymmetry is severe. A positive stock market reaction would only encourage low quality firms to borrow more, yielding an increasing supply of low quality borrowers and ever-declining average quality. Thus, negative average price reactions must prevail. This echoes the used car market of Akerlof (1970): the average quality tends to decline, and only “lemons” are offered for sale.

### **3.3 Testable hypotheses**

Given the theory outlined above, stock traders should react positively to bank loans in a banking environment driven purely by commercial considerations, but may react negatively to loans granted in an environment of bail-outs or other non-commercial motivations for lending. In our pooling equilibrium model, both high and low quality firms might get bank loans. Stock traders cannot determine whether a particular bank loan signifies a high quality firm or a low quality firm. Thus, a bank loan announcement does not send a precise signal that alleviates the information asymmetry between the stock market and the borrower. The purpose of our empirical work is to test our suspicion that the classic inside debt theory fails in China.

In taking these ideas to actual data, we recognize that stock market participants may have some limited ability to estimate borrower quality from public information. Therefore, we hypothesize that there are associations between the market’s judgment of a loan and firm, loan, and lender characteristics that imply something about borrower governance and quality generally. We organize a set of cross-sectional testable predictions based on the classic notion of inside

debt and an alternative set of predictions given the unique political and economic setting of the Chinese banking system.

We begin with the basic prediction about bank loan announcements in a developed environment which our model demonstrates. It mirrors the intuition of the classic bank loan event study literature:

**H1a: Announcement of a bank loan is associated with a positive abnormal return on the borrower's stock if bank loans are given to creditworthy firms.**

As explained previously, receipt of a bank loan is a positive signal that induces a positive return on the borrower's stock because the bank loan is inside debt in the traditional sense. It signals that the borrower is sufficiently healthy to repay the loan. Alternatively, the bank loan may convey negative information if bank loans are associated with troubled firms being propped up for social stability or other political reasons:

**H1b: Announcement of a bank loan is associated with a negative abnormal return on the borrower's stock if low quality firms have a higher probability of obtaining bank loans.**

Aside from predictions about the sign of the announcement effect, we examine associations between the size of the effect and characteristics of the borrower, lender, and loan. Stock traders infer some information about the conditional probability of getting a loan and the quality of a particular borrower:

**H2a: The borrower's bank loan announcement return is particularly positive for firms that are information-poor, in legal or regulatory trouble, weakly governed, have greater financial and operating risk, poorer operating performance, or frequent expropriation or tunneling.**

Under the positive signal hypothesis for bank loan announcements (H1a), the positive effect of a bank loan announcement should be particularly pronounced for borrowers that are informationally opaque, difficult to evaluate, or seem troubled in other respects. Indicators of problematic firms include book income and balance sheet measures, indicators of audit or regulatory scrutiny, large ownership by the state, large divergence between ownership and control rights, and potentially abusive related party transactions. If a firm that scores poorly on these measures is nonetheless able to obtain a bank loan, it is a particularly strong positive signal.

In contrast, H1b implies that a bank loan to a particularly weak firm merely confirms the impression that the borrower is a particularly bad firm:

**H2b: The borrower's bank loan announcement return is particularly negative for firms that are information-poor, in legal or regulatory trouble, weakly governed, have greater financial and operating risk, poorer operating performance, or frequent expropriation or tunneling.**

Some of the variables we select to test H2a and H2b proxy for the unique features of China's economic and political environment. For example, local governments have considerable

influence over local branches of state banks. They may influence loan policies and make decisions that affect the operations of banks and borrowers to further their social or political agendas. Borrowers with relatively high state ownership may also be particularly subject to non value-maximizing goals. Therefore, severe moral hazard is more likely for loans from local bank branches and loans to firms with high state ownership. Agency problems may also be severe for borrowers with greater opportunities to transfers funds to related parties such as parent and subsidiary companies, business partners, influential investors, and key management personnel. As detailed later, we include proxies for all these forces among our cross sectional variables.

We offer several additional related predictions to discern whether bank loans in China signal good firms in the conventional manner, or identify “zombie” firms in need of a “transfusion”:

**H3a: The positive return on the borrower’s equity in response to a bank loan announcement is positively correlated with subsequent corporate performance.**

**H3b: The negative return on the borrower’s equity in response to a bank loan announcement is correlated with subsequent poor corporate performance.**

If a bank loan is a positive signal, it is met by an immediate positive stock market response and predicts good subsequent corporate performance. If a bank loan is a negative signal, it is met with an immediate negative stock market response and predicts poor subsequent corporate performance.

The nature of the lending bank may also explain cross-sectional differences in announcement effects. The positive signal value of a bank loan should be particularly powerful if the loan originates with a private bank since such banks have strong incentives to lend on a purely value-creating basis:

**H4a: The borrower's bank loan announcement return is particularly positive for a loan from a private bank.**

In contrast, state-owned banks are particularly bad at evaluating a borrower's creditworthiness or are under special pressure to supply "policy loans". Therefore, loans from such banks signal particularly weak borrowers:

**H4b: The borrower's bank loan announcement return is particularly negative for a loan from a state owned or controlled bank.**

Note that H4a and H4b are not competing hypotheses but are more akin to "two sides of the same coin" that may be observed in either "conventional" or "bail-out" oriented banking systems.

The intended purpose of a loan may also help explain announcement effects. In a conventional banking environment, H1a implies that the announcement of a bank loan intended to replace existing financing is less positive than the announcement of a bank loan intended to finance new value-creating investment projects. In a banking environment in which bail-outs and political motivations are common, H1b implies that the announcement of a bank loan that merely replaces existing debt identifies a struggling firm rolling over its debt. In either case, we should

observe a less positive announcement effect if the loan is for refinancing purposes rather than new investment. Thus, we expect to find that the borrower's bank loan announcement return is less positive, or more negative, for loans intended to repay earlier loans.

#### **4. Data and sample selection**

We first search for all bank loan related announcements in Chinese newspapers, magazines, and websites designated by the Chinese Securities Regulatory Commission (CSRC).

<sup>20</sup> <sup>21</sup> Existing regulations on disclosure require listed firms to announce major events that may significantly affect their stock prices.<sup>22</sup> Our search yields a total of 379 announcements of bank loans issued by Shanghai and Shenzhen listed companies from January 1999 through December 2004. To minimize the effect of confounding events, we exclude 91 announcements accompanied by other corporate events such as financial reporting, mergers and acquisitions, CEO turnovers, board of director meetings, and lawsuits within the [-1,+4] window of the loan announcement. Our final sample contains 288 announcements of actual bank loans for companies listed on both the Shanghai Stock Exchange and the Shenzhen Stock Exchange. Finally, to confine our sample to non banking firms, we drop three announcements made by one

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<sup>20</sup> We also encountered "credit agreement" announcements. They indicate the ceiling on loans a bank may extend to a particular company over a period of time but are not actual loan offers for potential investment projects or other uses of funds. Credit agreements are extended to virtually all companies and thus may be thought of as a very weak loan "pre-qualification" with little information content relative to an actual bank loan announcement. Therefore, we exclude such announcements from our study. Indeed, credit agreement announcement effects (available upon request) are much weaker than those for bank loan announcements.

<sup>21</sup> The officially-designated media for corporate disclosure include seven newspapers (China Securities Journal, Securities Daily, China Daily, Financial Times, China Reform Daily, Securities Times, Shanghai Securities News), one magazine (Securities Market Weekly), and two websites ([www.cninfo.com.cn](http://www.cninfo.com.cn) , [www.cnstock.com](http://www.cnstock.com)).

<sup>22</sup> Article 62 of Section 3 of China's securities laws requires, as of July 1, 1999, that listed companies announce major events such as major changes in management policy and business scope; decisions on major investments and property acquisition; important contracts that may impact companies' assets, liabilities, rights, and interests; major losses; major changes in the external conditions for production and management; changes in the Chairman of board of directors or over one third of the directors; and major litigation.

financial company, yielding a final sample of 285 bank loan announcements.<sup>23</sup> The majority of our sample firms have a single loan announcement over the sample period, but some companies have more than one loan announcement.<sup>24</sup> However, enforcement on information disclosure remains weak, with a low chance of violators being caught or punished severely. Thus, some companies may not actively, promptly, and fully disclose according to regulation. To account for the possibility that some firms obtained loans but made no public announcement, we also collect data on companies with no bank loan announcements but with increases in long-term loans on the balance sheet during our sample period of 1999 to 2004.

We obtain additional market and accounting data from GTI Financial Information ([www.gti.cn](http://www.gti.cn)). We collect data on related party transactions from annual reports that listed companies are required to file online.<sup>25</sup> The “Accounting Criteria of Corporations” issued by China’s Ministry of Finance defines a “related party” as capable of benefiting from significant influence or control rights over a listed firm’s financial and operational activities. Related parties of a public company may include its parent company or subsidiary companies, other companies that share its parent, its large and influential investors, its joint venture or joint operating partners, the principal individual investor or key management personnel and their family members, and other companies controlled or heavily influenced by its principal individual investor, key managers or family members. CSRC regulations require listed companies to report significant transactions with related parties such as payments for (or transfers of) goods, services, rent or intellectual property, transfers of assets or stock ownership, joint investments, providing or

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<sup>23</sup> For firms that announce bank loans, we verify that none had seasoned equity offerings during the accounting year prior to the bank loan announcement.

<sup>24</sup> There are 146 firms and 208 firm-year observations. 91 firms have one loan announcement, 23 have two announcements, 12 have three, 8 have four, and 12 firms have five or more announcements.

<sup>25</sup> See [www.jrj.com.cn](http://www.jrj.com.cn), which we cross-check against [www.sse.com.cn](http://www.sse.com.cn) and [www.cninfo.com.cn](http://www.cninfo.com.cn).

obtaining loans, or providing collateral or other guarantees for loans.<sup>26</sup> In particular, companies must disclose any related party transaction with value exceeding 30 million yuan, 5% of book value of equity, or 10% of net profit. We collect information about related party transactions from the “Related Party Relationships and the Business Transactions” category in each annual report. In particular, we use “other accounts receivables” from this category to proxy for the degree of expropriation or tunneling.<sup>27</sup> This variable reflects the cash amount owed by related parties that are not associated with sales of goods. This accounting item largely reflects a firm’s financial resources used by its related parties. This proxy for potentially abusive related party transaction parallels previous studies such as Jiang, Lee, and Yue (2005).

## **5. Empirical results**

### **5.1 Summary statistics**

Panel A of Table 1 provides descriptive statistics on borrowers and loans. Results indicate that borrowers are typically listed on an exchange for several years. The firm size of our sample firms is smaller than the average of all listed companies. The average total assets of sample firms is 1.3 billion yuan (about 190 million U.S. dollars), while the median is 0.92 billion yuan, slightly less than the mean and median of the total assets of all listed companies.<sup>28</sup> Loans are typically substantial, averaging 94 million yuan (about 13.4 million U.S. dollars), consistent

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<sup>26</sup> See “Disclosure Requirements for Publicly Listed Companies – Criteria of Content and Format, No. 2 – Annual Report”, CSRC, 8<sup>th</sup> December 1999, at <http://www.csrc.gov.cn>

<sup>27</sup> The three primary types of related party transactions for which CSRC requires disclosure are purchase and sale of goods and services between a listed company and a related party, asset acquisition or stock ownership transfer between a listed company and a related party, and corporate lending or guarantees for obtaining collateral loans provided by (for) a listed company for (by) a related party. From the Related Party Transactions part of each annual report, we manually collect “other accounts receivables”. We use this accounting item in our analysis, because it reflects receivables (generated from the above three types of related party transactions) owed by a related party but not paid, or at risk of never being paid and thus are likely to reflect transactions related to “tunneling” activities such as embezzlement of corporate assets by related parties.

<sup>28</sup> The mean (median) of total assets of all stock exchange listed companies is 2.4 (1.2) billion yuan.

with the fact that only companies obtaining large loans are required to report. There is moderate variation in maturity of loans, with the average maturity of about 2 years. Notably, there is little variation in the interest rate on loans. The mean (median) interest rate is 5.6% (5.4%). Chinese banks have had little flexibility in determining lending rates, and this is reflected in the relatively low range of rates. In recent years, the central bank has applied a floating band for the lending rate.

Panel B of Table 1 summarizes additional characteristics of the loans and borrowers. Slightly more than half of the loans (167 out of 285) are from one of the Big Four state-owned banks. Almost all loans (278 out of 285) are made by state-owned banks, with only three loans from a privately-owned bank, China Min sheng Bank. Most firms are majority-owned by government entities. For example, 216 bank loan announcements are from firms with the largest shareholder being the state or state related institutions. Note that most Chinese listed companies are effectively controlled by government entities due to large, if not majority, ownership.

There is some information on the intended use of loan proceeds. For example, 22 announcements indicate that the loan will be used for new investment projects while 66 indicate that the loan will be used to repay existing debt. Furthermore, 13 announcements are for borrowers with audit problems during the announcement year, 5 are for borrowers that have been admonished for improper behavior by the China Securities Regulatory Commission (CSRC), and 19 announcements are for borrowers currently under “Special Treatment” status.<sup>29</sup> The largest percentage of the loan announcements is for borrowers in manufacturing industries (138 out of 285). Finally, 12 announcements are from companies whose equity includes foreign-targeted B or H shares.

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<sup>29</sup> In February 2001, the CSRC started delisting companies that had lost money for three consecutive years. To monitor troubled firms, the stock exchanges categorize companies that have recorded two consecutive years of losses as "special treatment" (ST) shares.

## 5.2 Abnormal returns around bank loan announcements

We first examine the average abnormal stock returns (AAR) and average cumulative abnormal returns (CAR) of borrowers around loan announcements. We compute AAR and CAR using the market model. The estimation window for calculating the market model parameters is the event time interval  $[-120, -21]$ , with time 0 being the announcement day.<sup>30</sup> AAR and CAR are tested for significance using a two-tail t-test with the null hypothesis that abnormal returns are not statistically different from zero. We also report nonparametric sign test and Wilcoxon signed-rank test results. The sign test categorizes data into binary outcomes with null hypothesis being the percentage of negative AAR (CAR) equal to the percentage of positive AAR (CAR). The alternative hypothesis is that the percentage of negative returns is greater than the percentage of positive returns. The Wilcoxon signed-rank test embeds the information of magnitudes with the null hypothesis being that there is no difference in magnitudes between the negative and positive AAR (CAR). The alternative hypothesis is that there is a difference in the magnitude between the two populations.

Table 2 presents summary statistics on abnormal returns around bank loan announcements. For nearly all reported windows, CARs are strongly significantly *negative* under three alternative parametric and non parametric significance tests. For example, the average  $[-1, 1]$  CAR is -0.391% and the average  $[-1, 4]$  CAR is -0.640%, and they are statistically significant at the 5% level. Thus, the typical effect of a bank loan announcement is a decrease of one-third to over one-half percent in the value of the borrowing firm's equity over several days following the bank

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<sup>30</sup> Results are robust to a variety of estimation windows.

loan announcement. The average [-5,-2] CAR is positive and insignificant. This suggests that there is no systemic information leakage prior to the loan announcement.<sup>31</sup>

The negative stock market reaction to bank loan announcements in China supports hypothesis H1b and contrasts with what earlier studies of other countries have found. To further characterize this negative reaction, we group our events into pairs according to firm, loan, and lender characteristics. For example, we group bank loan announcements as those intended to repay or extend an old loan, versus those intended to supply cash for operations or fund new investments. We then conduct univariate tests to compare whether the abnormal returns are statistically different between the two groups in each pair.

Table 3 provides summary statistics on [-1, 4] cumulative abnormal returns broken down by firm (Panel A), loan (Panel B), and lender (Panel C) characteristics. Because some loan announcements may have become known just prior to the official announcement date, we focus on the CAR over a six-day event window [-1, 4] following Harvey, Lins, and Roper (2004).

We first sort the announcement data by firm characteristics. To assess the connection between potentially abusive related party transactions (RPT) and the strength of the negative bank loan announcement return reaction, we divide the sample into firms with increases in RPT and firms with no increase in RPT in the announcement year. Panel A of Table 3 shows that the negative stock return effect of loan announcement is significantly greater for firms with increased RPT (-1.173%) than for firms without increased RPT (-0.423%). The comparison between top and bottom quintiles of net increase in RPT gives a much stronger result. The difference in CAR between top and bottom quintiles is nearly 1.4% and it is statistically

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<sup>31</sup> We define the announcement day (day 0) as the date that newspaper and other financial media publish the loan announcement. It is likely that some announcements occurred on day -1, but appeared on newspaper on day 0.

significant.<sup>32</sup> This suggests that the market has a negative view of loans to poorly-governed firms that are more likely to engage in transferring or tunneling borrowed funds. This result supports H2b. Thus, information about the use of a firm's resources by related parties serves as an important indicator of the quality of corporate governance. Results from sorting firms based on market capitalization indicate that the negative reaction to loan announcements is stronger for smaller firms than for larger firms.

Sorts on financial performance (ROA and ROE) suggest that the negative response to bank loan announcements is stronger if performance has deteriorated in the announcement year. These findings are consistent with H1b. Panel A also shows the negative announcement effect is stronger for firms with above median percentage of shares controlled by the largest shareholder. While this contrasts with the finding of Durnev and Kim (2005) that higher ownership concentration is associated with better governance, large shareholders in China are mostly government entities which may be associated with greater probability of tunneling or weaker management. We also find that the negative announcement effect is greater for state-owned firms: for the 69 announcements from non-state owned borrowers, the average CAR is insignificant. Surprisingly the 19 announcements from firms under special treatment status (ST) display statistically insignificant average CAR. Perhaps these particularly troubled firms are perceived as already being propped up by the Chinese government and, therefore, announcements of additional bank loans have little informational value.

Sorting the announcements by loan characteristics also yields some interesting results as reported in Panel B of Table 3. The negative stock return effect of a loan announcement is significantly greater for loans used for repayment of old loans (-1.11%) versus other uses of the funds (-0.50%). This result suggests that the stock market does not like firms that appear to need

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<sup>32</sup> To conserve space, the results of quintile-based sorts are not reported.

to repeatedly roll over their debt. Furthermore, firms that use loans for long term investment (perhaps an indicator of heavy industry) have significantly negative cumulative abnormal return. This suggests that the market may not favor loans to troubled “rust belt” firms. Lastly, loans with shorter maturity (one year or less) have more negative average CAR than loans with longer maturity. Indeed, there are many examples of Chinese companies using short-term borrowing to fund long-term assets.

Panel C of Table 3 reports univariate statistics on announcement effects sorted on lender characteristics. Although the sample is quite small, it is notable that the three loans issued by the only private bank in the sample (China Min Sheng Bank) have a marginally significantly positive 5-day average CAR of 4.7%. This result supports H4a. In addition, the negative CAR is larger for loans from the Big Four state banks than for loans from other banks. This evidence supports hypothesis H4b, which predicts that the borrower’s loan announcement return is even more negative if the loan is obtained from one of the Big Four state banks. Further highlighting lender characteristics, the negative CAR is stronger and significant for loans issued by a bank’s local branch such as municipal or township bank branches below the provincial level (-0.63%). In contrast, the average 5-day CAR for loans issued by the provincial level branches and headquarters is not significantly different from zero. Local branches seem to be different. This is consistent with the hypothesis that local branches are more prone to local government influence and suffer higher moral hazard. Indeed, the banking system in China remains fragmented and a significant portion of loans are made through widespread local branches.<sup>33</sup> Collectively, the results in Table 3 suggest that the strength of the negative market reaction to bank loan

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<sup>33</sup> For example, the Agriculture Bank of China still has 31,000 branches even after eliminating 20,000 branches as of 2005 (Dobson and Kashyap, 2006).

announcement relates to firm, loan, and lender characteristics in a manner that confirms our hypotheses.

### **5.3 Multivariate cross-sectional analysis**

Next, we conduct cross-sectional regression analysis to explain the stock price response to bank loan announcements. The dependent variable is the cumulative abnormal return for the six-day event window of [-1, 4]. We select independent variables to proxy for firm, loan, and lender characteristics as follows. Firm size (log of market capitalization) captures the idea in Diamond (1991) that bank monitoring may be especially valuable to small firms with no established reputation (MKT\_CAP). Profitability is measured with ROA, Corporate governance proxies reflect the board of directors has government connections (POLITICAL) and whether a borrower is financially distressed and officially categorized as under ‘Special Treatment’ (DISTRESS).<sup>34</sup> To account for possible expropriation or tunneling, we include the change in other accounts receivables (scaled by total assets) due to related party transactions from the accounting year prior to the announcement to the announcement year (RPT). CRTL\_RIGHT is a dummy that takes value of 1 if the percentage of shares outstanding owned by the largest shareholder (usually the state) is greater than the median value, and 0 otherwise. Loan and lender characteristics include a dummy indicating intended use is repaying existing debt (PURPOSE\_REPAY), a dummy indicating intended use is investment (PURPOSE\_INVEST), a dummy indicating the lender is one of the Big Four state banks (BIG4\_LENDER), and a dummy variable indicating whether a loan is issued by a bank’s local branches below the provincial level (SUB\_BRANCH).

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<sup>34</sup> We examined other variables such as the number of employees, a dummy variable for geographic location, earning’s opacity, a dummy variable for heavily regulated firms, a dummy variable if the loan announcement is preceded by another from the same company within 12 months, and the number of institutional investors in the top 10 largest shareholders. All proved insignificant, and are not reported for brevity.

Table 4 reports correlations among selected regression variables. They are typically insignificant or small.

Table 5 presents the regression results. A few significant results stand out. In all specifications, the coefficient for RPT, the change in other accounts receivables due to related party transactions, is significantly negative, and robust to the inclusion of other explanatory variables. This finding suggests that firms with higher growth of resources used by related parties have greater negative stock price reaction following bank loan announcements. This supports hypothesis H2b and the basic idea that China's banking system may largely serve to prop up weak or dysfunctional firms. In particular, the association between event study residuals and related party transactions indicates that the stock market is aware of the relationship between firm quality and loans that our model captures.

The coefficient for CTRL\_RIGHT is significantly negative in all three specifications that include it, suggesting that the negative stock price reaction is much stronger for firms with greater than median percentage of shares outstanding owned by the largest shareholder. Because the state typically is the largest shareholder, this suggests that larger concentration of state ownership signals higher probability of poor performance. This finding is broadly consistent with H2b. The coefficients for dummy variables PURPOSE\_INVEST and PURPOSE\_REPAY are, in most cases, marginally significantly negative. This suggests that investors react negatively to announcements of loans used for long-term investment (perhaps indicating overinvestment in employment-rich heavy industry), or for rolling over existing debt (perhaps indicating continued support for troubled firms).

Among the variables reflecting lender characteristics, the dummy for the Big Four state banks is marginally significantly negative in one of the regression specifications. This is

consistent with the notion that the Big Four state banks are more likely to engage in policy-oriented loans or loans based on political connections rather than lending based on borrower creditworthiness.

#### **5.4 Logit Regression Analysis**

Our results to this point suggest that poorly-performing Chinese firms often get bank loans. For an alternative view of what types of companies are more likely to receive bank loans, we conduct a logit regression analysis. The dependent variable equals 1 for each firm-event in our loan announcement sample and equals 0 for a matching sample constructed each year from all companies that do not have loan announcements and have no increase in long term debt on their balance sheets. Specifically, for each firm-event in our loan announcement sample, we first identify all other companies from the same industry and select the one with the closest amount of total assets, as long as it is within 10% of the sample firm's total assets. Independent variables in the logit regression include return on assets, the yearly change in corporate income and business taxes (scaled by total assets) in the announcement year, a dummy variable set to 1 if the largest shareholder is a state enterprise, and the yearly change in total "managerial expenses" (scaled by total assets) in the announcement year.<sup>35</sup> "Managerial expenses" include compensation, travel and entertainment, a variety of benefits and subsidies, and other perquisites.

Results are reported in Table 6. Clearly, firms with poorer performance as measured by return on assets are more likely to receive bank loans. This supports the notion that banks in China frequently use policy loans to prop up ailing companies and is consistent with our model's prediction that the loan announcement effect will be negative if the probability that bad firms

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<sup>35</sup> This variable is similar in spirit to the "expense ratio" used by Ang, Cole, and Lin (2000) in their study of governance in U.S. small businesses.

receive loans is higher than good firms. Results from other regression specifications indicate that firms with greater increase in managerial expenses have higher probability of receiving bank loans. Similar to the “expense ratio” in Ang, Cole, and Lin (2000), managerial expense reflects agency costs. This confirms that Chinese firms with higher agency costs tend to rely more on bank loan financing because they are inefficient, more in need of state support, and possibly more subject to tunneling and other forms of theft.

### **5.5 Long-run performance following bank loan announcements**

Our most dramatic finding is that there is typically a decline in borrower share price following an announcement of a bank loan. To examine whether this reaction is merely transient or instead predicts a long term change in firm value, we investigate long term financial performance after bank loan announcements using both raw and industry- adjusted return on assets (ROA) and return on equity (ROE). We compute averages of ROA and ROE in the year before, during, and after each bank loan announcement, then test the significance of the change in mean ROA and ROE following the bank loan announcement. We exclude 19 announcements for companies that were under special treatment status (ST), as these companies are particularly prone to providing very misleading accounting information. In addition, companies with more than one announcement in a particular year are only included once for that year. The final sample size for this analysis is 251.

Table 7 presents the summary statistics and significance tests on borrower performance around bank loan announcements. We find that firms that obtained bank loans have significantly lower ROA and ROE in the year following the announcement. For example, ROA (ROE) declines to -1.29% (-1.39%) in the announcement year from 1.96% (2.78%) in the previous year.

These numbers further declined to -3.41% (-1.67%) in the first year after the announcement and -6.78% (-32.81%) in the second year after the announcement. Industry-adjusted ROA and ROE show similar patterns, as do medians. These declines are statistically significant in most cases. Thus, firms that obtain bank loans typically experience deterioration in long term financial performance. This supports hypothesis H3b and is consistent with state banks offering loans to keep state-connected firms afloat.

To overcome any possible selection bias in our data, we conduct an additional matching sample test of whether receipt of a bank loan predicts subsequent poor long run financial performance. We examine the change in ROA and ROE for two groups of firms matched on total assets and the book value of long term loans. The first group consists of companies that do not have bank loan announcements but display increases in long-term debt on the balance sheet for a particular accounting year during our sample period of 1999 to 2004.<sup>36</sup> We obtain 119 such firms.<sup>37</sup> The second group consists of companies that do not record increases in long-term loans for any particular accounting year during our sample period. We obtain 153 such firms. Again, we compute summary statistics for ROA and ROE for the year before, during, and after the announcement. We also compute significance tests on the changes in means and medians of ROA and ROE across the three year periods. Table 8 reports the results, with Panel A reporting the first matching group and Panel B reporting the second matching group.

Panel A of Table 8 shows that, for companies with no bank loan announcements but increases in long-term loans on their balance sheet, there are significant declines in the mean (or

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<sup>36</sup> If loans that are not announced reflect firms hiding bad information, the exclusion of these firms from our basic event study sample should bias our event study results against finding significantly negative announcement effects.

<sup>37</sup> We use the increase in “long-term debt” on the balance sheet to proxy for the increase in long-term loans: “long-term debt” primarily reflects long-term bank loans since corporate bond issues are rare in China. We do not consider “short-term debt” which, according to Chinese accounting principles, “short term debt” includes many non-bank related short-term liabilities such as accounts payable, wages and benefits owed, stock dividends, and taxes owed.

median) of ROA and ROE following the long term debt increase. In contrast, Panel B shows that, for companies without increases in long-term loans on their balance sheet, there is no significant change in ROA or ROE. This confirms that bank loans in China are often used to keep financially troubled firms afloat, instead of being used to fund positive NPV projects.

To further check robustness and test hypothesis H3b, we group the companies based on their [-1,4] CAR and test for the significance of changes in ROA and ROE before versus after loan announcements. Table 9 reports results for companies grouped on positive versus negative CAR, and on the highest and lowest CAR declines. Among the 159 events with negative CAR, ROA and ROE decline significantly from the year before to the year after the loan announcement. In contrast, the changes in ROA and ROE are much weaker for the 121 events with positive CAR. Echoing those findings, significant declines in ROA and ROE are observed for firms in the lowest CAR quintile while no significant changes are observed for firms in the highest CAR quintile. Overall, the results are consistent with hypothesis H3b: the size of the borrower's stock return response is positively correlated with subsequent corporate performance.

#### **F. Do bank loan announcements also affect the lender's stock price negatively?**

We have established that the announcement of a bank loan by a Chinese corporate borrower is often associated with a significant decline in the borrower's stock price. If these loans signal, or even subsidize, poorly-performing firms, there may be a response somewhere else in the banking system. Therefore, following Kang and Liu (2006), we also investigate the impact of bank loan announcements on the stock returns of lenders. Unfortunately, the largest Chinese banks were not yet listed on stock markets during our sample period and we must rely on a small sample of loan events associated with smaller listed banks. We conducted an event

study on 24 bank loan announcements involving lenders that were listed on the stock market at the time of the announcement. The results (unreported but available upon request) indicate no statistically significant market response for the stock price of the lending bank. This insignificant finding may be due to the very small sample size or the small size of our sample of bank loans relative to typical bank assets. The structure of the relationships between individual banks and the banking authorities may also subsidize bad loans to corporate borrowers. For example, state commercial banks have been permitted to liberally write-off bad loans against their earnings, effectively reducing their tax liability. State-owned asset management companies were set up to purchase troubled assets (mainly non-performing loans) from the “Big Four” state banks. Some bonds issued by the Ministry of Finance have been used to inject funds into state banks. Recently, the government has formalized the process of topping up bank balance sheets by establishing Central Hui Jin (Remittance) Investment Ltd. Co., whose shareholders include the central bank and other government agencies. The company has injected large amounts of foreign reserves onto the balance sheets of state commercial banks.

## **6. Summary and Conclusions**

We study the impact of bank loan announcements on the value of borrowing firms. A simple model of a pooling equilibrium suggests that both negative and positive announcement effects are possible, depending on whether the banking system is run on purely commercial terms or is subject to political goals. Empirical results are based on a sample of large loans from Chinese banks to listed Chinese borrowers. In contrast to what previous authors have found for bank loans in developed countries, we find that stock values for Chinese borrowers typically decline significantly around bank loan announcements. Furthermore, these negative

announcement effects are heightened for borrowers with frequent related-party transactions, poor subsequent performance, high state ownership, no foreign class shares, loans from local bank branches, or loans intended to repay existing debt.

Our results are of interest to a variety of policy makers and regulators. China's banking system is still a work-in-progress, as indicated by the unflattering associations between bank borrowing and poor corporate performance that we have documented. Aside from pointing out the state of China's banking reforms, our study provides lessons for many other countries at a lower level of economic and financial development than China. Furthermore, the condition of China's banking system is of interest to both small and large potential investors in Chinese banks. For example, in 2006, Bank of China and Industrial and Commercial Bank of China raised \$22 billion and \$11 billion respectively in initial public offerings on global stock markets. Foreign banks and other strategic investors placed huge amounts of funds in these banks in the form of direct purchases of minority ownership stakes. Our results highlight the substantial risks that China's banks pose for investors. While China's high savings rate (40% of GDP) helps keep the country's banks afloat, a financial crisis or significant drop in the savings rate could easily expose the poor quality of many of the banking system's assets and precipitate bank runs.

Despite the widespread view that China's stocks markets are inefficient, our results suggest that the markets function rather efficiently in detecting and interpreting the bank loan announcement effect and the implied long run implications for borrower performance.<sup>38</sup> Our results also contribute to understanding broader paradoxes in China's economy. Given large imbalances in trade and investment, China has come under pressure from the U.S. and other

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<sup>38</sup> Economist Jinglian Wu of the Development Research Center of State Council was quoted in early 2001 that "China's stock markets are heaven for speculation, ... the markets lack rules and are worse than a casino where there are rules for gambling," *The Wall Street Journal* of August 22, 2001 notes: "In ten years since they were founded, China's stock markets have operated like casinos, driven by fast money flows in and out of stocks with little regard for their underlying value."

major trading partners to make the yuan a fully convertible currency valued purely by market forces. It is commonly believed that such a move by China's government will lead to further appreciation of the yuan and a reduction in trade and investment imbalances. However, if controls are removed and China's citizens send their savings overseas for diversification or other purposes, it is plausible that a freely-floating yuan will decline in value, rather than appreciate. A stampede out of the yuan would be associated with massive withdrawals of funds from Chinese banks which, in turn, would impede the ability of the banks to continue subsidizing poor-performing Chinese corporations. This in turn could lead to massive unemployment and social instability as these firms collapse. Indeed, the Chinese government has indicated its belief that the currency regime cannot be fully liberalized until reform of the banking system is complete and the restriction on capital accounts is finally removed.<sup>39</sup> Thus, our study of Chinese bank loans reminds us of the consequences and contradictions that arise in reforming financial institutions in a transitional economy.

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<sup>39</sup> See for example Xinhua News Agency report on "China Central Bank Governor Mr. X. C. Zhou on Chinese Exchange Rate Reform", October 3, 2004.

## References

- Aintablian, Sebouh, and Gordon S. Roberts, 2000, A note on market response to corporate loan announcements in Canada, *Journal of Banking and Finance* 24, 381 – 393.
- Akerlof, George. A., 1970, The market for “lemons”: Quality uncertainty and the market mechanism, *The Quarterly Journal of Economics*, 84, 488-500
- Allen, Franklin, Qian, Jun, and Meijun Qian, 2005, Law, finance, and economic growth in China, *Journal of Financial Economics* 77, 57 – 116.
- Anderson, Christopher W., 1999, Financial contracting under extreme uncertainty: an analysis of Brazilian corporate debentures, *Journal of Financial Economics* 51, 45-84.
- Ang, James S., Rebel A. Cole, and James Wuh Lin, 2000, Agency Costs and Ownership Structure, *Journal of Finance* 55, 81-106.
- Bai, Chong-en, David D. Li, Zhigang Tao, and Yijiang Wang, 2000, A multitask theory of state enterprise reform, *Journal of Comparative Economics*, 28, 716-738
- Best, R, and H. Zhang, 1993, Alternative information sources and the information content of bank loans, *Journal of Finance* 48, 1507 – 1522.
- Billet, M. T., Flannery, M. J., and Jon A. Garfinkel, 1995, The effect of lender identity on a borrowing firm’s equity return, *Journal of Finance* 50, 699 – 718.
- Billett, Matthew T., Flannery, Mark J. and Jon A. Garfinkel, 2006, Are Bank Loans Special? Evidence on the Post-Announcement Performance of Bank Borrowers, *Journal of Financial and Quantitative Analysis* 41, 733 - 752.
- Billett, Matthew T., Flannery, Mark J. and Jon A. Garfinkel, 2008, Frequent Issuers' Influence on Long-Run Post-Issuance Returns, unpublished University of Florida working paper.
- Brav, Alon, Christopher Geczy and Paul Gompers, 2000, Is the abnormal return following equity issuances anomalous? *Journal of Financial Economics* 56, 209 - 249.
- Brown, Craig, and Serdar Dinc, 2005, The Politics of Bank Failures: Evidence from Emerging Markets, *Quarterly Journal of Economics* 120, 1413-1444.
- Chang, Eric C., and Sonia M. L. Wong, 2004, Political control and performance in China’s listed firms, *Journal of Comparative Economics* 32, 617 – 636.
- Chemmanur, Thomas J., and Paolo Fulghieri, 1994, Reputation, renegotiation, and the choice between bank loans and publicly traded debt, *Review of Financial Studies* 7. 475 – 506.

- Cheung Yan-Leung, Jing, Lihua, Rau, P. Raghavendra and Stouraitis, Aris, 2005, Guanxi, Political Connections, and Expropriation: The Dark Side of State Ownership in Chinese Listed Companies, Working Paper, City University of Hong Kong.
- Cheung, Steven Yan-Leung, Rau, P. Raghavendra and Stouraitis, Aris, 2006, Tunneling, Propping, and Expropriation: Evidence from Connected-Party Transactions in Hong Kong, *Journal of Financial Economics* 82, 343 – 386.
- Cheung, Steven Yan-Leung, Jing, Lihua, Rau, P. Raghavendra and Stouraitis, Aris, 2006, How Does the Grabbing Hand Grab? Tunneling Assets from Chinese Listed Companies to the State, unpublished City University of Hong Kong working paper (March).
- Cook, Douglas O., Schellhorn, Carolin D., and Lewis J. Spellman, 2003, Lender certification premiums, *Journal of Banking and Finance* 27, 1561 – 1579.
- Corrado, Charles J., and Terry L. Zivney, 1992, The Specification and Power of the Sign Test in Event Study Hypothesis Tests using Daily Stock Returns, *Journal of Financial and Quantitative Analysis* 27, 465 – 478.
- Cull, Robert, and Lixin Colin Xu, 2005, Institutions, ownership, and finance: the determinants of profit reinvestment among Chinese firms, *Journal of Financial Economics* 77, 117 – 146.
- Datta, Sudip, Mai Iskandar-Datta and Ajay Patel, 2000, Some evidence on the uniqueness of initial public debt offerings, *Journal of Finance* 55, 715 - 743.
- Demiroglu, C., and C. James, 2007, The Information Content of Bank Loan Covenants, unpublished University of Florida working paper.
- Denis, David J., and Vassil T. Mihov, 2003, The choice among bank debt, non-bank private debt, and public debt: evidence from new corporate borrowings, *Journal of Financial Economics* 70, 3 – 28.
- Diamond, Douglas W., 1999, Monitoring and reputation: The choice between bank loans and directly placed debt, *Journal of Political Economy* 99, 689 – 721.
- Diamond, Douglas, and Philip Dybvig, 1983, Bank Runs, Deposit Insurance, and Liquidity, *Journal of Political Economy* 91, 401 - 419.
- Dinc, I. Serdar, 2005, Politicians and banks: Political influences on government-owned banks in emerging markets, *Journal of Financial Economics* 77, 453 – 479.
- Dobson, Wendy, and Anil K Kashyap 2006, The contradiction in China's gradualist reforms, University of Chicago, Working paper.

- Durnev, Art and Han Kim, 2005, To steal or not to steal: firm attributes, legal environment, and valuation, *Journal of Finance*, LX, 1461-1493.
- Eckbo, Espen, 1986, Valuation effects of corporate debt offerings, *Journal of Financial Economics* 15, 119 -152
- Fama, Eugene F., 1985, What's different about banks? *Journal of Monetary Economics* 15, 29 – 39.
- Harvey, Campbell R., Lins, Karl V., and Andrew H. Roper, 2004, The effect of capital structure when expected agency costs are extreme, *Journal of Financial Economics* 74, 3 – 30.
- Hawkins, Gregory D., 1982, An analysis of revolving credit agreements, *Journal of Financial Economics* 10, 59 – 81.
- Hertzel, Michael, Michael Lemmon, James Linck and Lynn Rees, 2002, Long-run performance following private placements of equity, *Journal of Finance* 57, 2595 - 2617.
- James, Christopher, 1987, Some evidence of the uniqueness of bank loans, *Journal of Financial Economics* 19, 217 - 235.
- James, Christopher, and David C. Smith, 2000, Are Banks Still Special? New Evidence on their Role in the Corporate Capital Raising Process, *Journal of Applied Corporate Finance* 13, 52 - 63.
- Jian, Ming, and T. J. Wong, 2003, Earnings management and Tunneling through Related Party Transactions: Evidence from Chinese Corporate Groups, unpublished Hong Kong University of Science and Technology working paper (June).
- Jiang, Guohua, Lee, Charles M. C., and Heng Yue, 2005, Tunneling in China: the surprisingly pervasive use of corporate loans to extract funds from Chinese listed companies, Guanghua School of Management, Peking University unpublished working paper.
- Kang, Jun-Koo, and Wei-Lin Liu, 2006, Bank incentives and supoptimal lending decisions: Evidence from the valuation effect of bank loan announcements in Japan, *Journal of Banking and Finance*, forthcoming.
- Khwaja, Asim Ijaz and Atif Mian, 2005, Do lenders favor political connected firms? Rent provision in an emerging financial market, *Quarterly Journal of Economics* 120, 1371-1411
- Kim, Young-cheol, and Rene M. Stulz, 1988, The Eurobond market and corporate financial policy: a test of the clientele hypothesis, *Journal of Financial Economics* 22, 189 - 205.

- Liu, Yang, 2006, The sources of debt matter too, *Journal of Financial and Quantitative Analysis*, 41, 295-316.
- La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2002, Government ownership of banks, *Journal of Finance* 57, 265-301
- Lummer, Scott L, and John J. McConnell, 1989, Further evidence on the bank lending process and the capital market response to bank loan agreements, *Journal of Financial Economics* 25, 99 – 122.
- Mikkelson, Wayne and Megan Partch, 1986, Valuation effects of security offerings and the issuance process, *Journal of Financial Economics* 15, 31 – 60.
- Mosebach, Michael, 1999, Market response to banks granting lines of credit, *Journal of Banking and Finance* 23, 1707 – 1723.
- Myers, Stewart and Nicholas Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187 - 221.
- Petersen, M.A., and R. Rajan, 1994, The benefits of lending relationships: Evidence from small business data, *Journal of Finance* 49, 3 – 37.
- Podpiera, Richard, 2006, Progress in China's Banking Sector Reform: Has Bank Behavior Changed? IMF Working Paper WP/06/71.
- Rajan, R., 1992, Insiders and outsiders: The choice between informed and arm's length debt, *Journal of Finance* 47, 1367 – 1400.
- Rajan, R., 1996, Why Banks have a Future: Toward a New Theory of Commercial Banking, *Journal of Applied Corporate Finance* 9, 114 - 128.
- Sapienza, Paola, 2004, The effects of government ownership on bank lending, *Journal of Financial Economics* 72, 357-384.
- Slovin, M. B., Johnson, S. A., and J. L. Glascock, 1992, Firm size and the information content of bank loan announcements, *Journal of Banking and Finance* 15, 1057 – 10.
- Spiess, D. Katherine, and John Affleck-Graves, 1999, The long-run performance of stock returns following debt offerings, *Journal of Financial Economics* 54, 45 – 7.

**Table 1**  
**Sample Characteristics and Descriptive Statistics**

The sample consists of loan announcements from 1999 through 2004 by companies listed on the Shanghai or Shenzhen stock exchanges.

Panel A: Descriptive statistics on borrowers and loans	Mean	Median	Minimum	Maximum	Observations
Years borrower listed on stock exchange	6.257	6.230	0.753	12.301	285
Total assets (million yuan)	1367.240	917.332	220.443	17692.200	285
Tradable shares market value (million yuan)	827.749	625.962	102.033	5870.492	285
Amount of loan (million yuan)	94.274	58.000	2.000	1500.000	285
Maturity of loan (years)	1.618	1.000	0.083	15.000	271
Interest rate on loan (%)	5.598	5.441	3.567	7.282	195

  

Panel B: Other sample characteristics	Observations
All loan observations	285
Firm-year observations	208
Borrower's largest shareholder is state or state related institutions	216
Borrower's equity includes B or H shares	12
Borrowers admonished by Chinese Securities Regulatory Commission	5
Borrowers had problems in audit in announcement year	13
Borrowers under Special Treatment (ST) status	19
Borrowers with negative profits in the previous year	19
Borrowers from manufacturing industry	138
Borrowers from information technology industry	22
Borrowers from real estate industry	14
Borrowers from transportation industry	22
Loans from one of the four state banks	167
Loans from local branch banks	142
Loans from state owned or state controlled banks	278
Loans from privately owned banks	3
Loans used for new project investment	22
Loans used to repay existing debt	66

**Table 2**  
**Abnormal Returns around Bank Loan Announcements**

Average abnormal returns (AAR) and average cumulative abnormal returns (CAR) are calculated using the market model and standard event study methodology. The estimation window for calculating market model parameters is [-120, -21]. AAR and CAR are tested for significance using a two-tail t-test with the null hypothesis of not statistically different from zero. The sign test categorizes data into binary outcomes with null hypothesis that the percentage of negative AAR (CAR) equals the percentage of positive AAR (CAR). The Wilcoxon signed-rank test has null hypothesis of no difference in magnitudes between the negative and positive AAR (CAR). “\*\*\*”, “\*\*”, and “\*” indicate significance at the 1, 5, and 10 percent levels, respectively. The number of observations is 285.

Event day or window (0: Announcement day)	AAR or CAR	Percent of AAR or CAR greater than zero	T-test	Sign-test	Wilcoxon Signed Rank test
-5	0.083%	43.860%	0.747	1.156	0.004
-4	-0.018%	45.263%	-0.169	-1.023	-1.109
-3	0.025%	41.754%	0.232	-2.171**	-1.084
-2	-0.004%	46.316%	-0.033	-0.780	-0.371
-1	-0.223%	38.246%	-2.394**	-3.431***	-3.057***
0	-0.062%	41.404%	-0.590	-2.348**	-1.781*
1	-0.106%	41.053%	-1.138	-2.524**	-1.966**
2	0.050%	41.754%	0.529	-2.283**	-1.009
3	-0.231%	42.456%	-2.092**	-2.211**	-2.177**
4	-0.068%	42.456%	-0.707	-1.701*	-1.193
5	-0.030%	46.316%	-0.334	0.544	0.349
[-5, -2]	0.087%	49.123%	0.365	0.000	0.114
[-1, 1]	-0.391%	40.351%	-2.342**	-2.983***	-2.691***
[-2, 2]	-0.345%	41.404%	-1.608	-2.625***	-1.949*
[-3, 3]	-0.551%	43.860%	-2.075**	-1.958**	-2.601***
[-4, 4]	-0.637%	44.912%	-2.039**	-1.432	-2.439**
[-5, 5]	-0.583%	42.456%	-1.655*	-2.155**	-2.113**
[-1, 2]	-0.341%	42.807%	-1.754*	-2.092**	-2.153**
[-1, 3]	-0.572%	39.649%	-2.505**	-3.221***	-2.855***
[-2, 3]	-0.575%	41.754%	-2.346**	-2.506**	-2.695**
[-1, 4]	-0.640%	42.456%	-2.556**	-2.211**	-2.546**
[-2, 4]	-0.644%	43.158%	-2.450**	-2.028**	-2.557**

**Table 3**  
**Cumulative Abnormal Returns Sorted on Firm, Loan, and Lender Characteristics**

This table reports [-1,4] cumulative abnormal returns (CAR) around bank loan announcements by sub-samples with parametric and nonparametric significance tests. The sign test has null hypothesis that the percentage of negative AAR (CAR) equals the percentage of positive AAR (CAR). The Wilcoxon signed-rank test has null hypothesis of no difference in magnitudes between the negative and positive AAR (CAR). \*\*\*, \*\*, and \* denote significance at 1, 5, and 10 percent levels, respectively. Tests of “above median” and “below median” groups have 284 observations because the median observation is excluded. Firms with negative equity are dropped in the ROE sort. In some other sorts, lack of data leaves the total number of observations below 285.

Category	No. of obs.	CAR [-1, 4]	T-test of CAR=0	% CAR positive	Sign test	Wilcoxon signed rank test	CAR difference (Higher – Lower)	t-test of mean difference
<b>Panel A: Sorted on Firm Characteristics</b>								
Related party transaction (RPT)								
Firms with increase in RPT	117	-1.173%	-2.839***	37.607%	-2.341**	-2.338**		
Firms with no increase in RPT	99	-0.423%	-1.022	40.404%	-1.809*	-1.693*	0.750%	1.273
Market Cap								
Above median	142	-0.507%	-1.486	41.549%	-1.853*	-2.041**		
Below median	142	-0.792%	-2.143**	42.958%	-1.277	-1.619	0.285%	0.566
Firm performance - ROA								
With increase	102	-0.199%	-0.489	44.118%	-0.804	-1.031		
With no increase	183	-0.904%	-2.843***	41.209%	-2.162**	-2.432**	0.705%	1.349
Firm performance - ROE								
With increase	100	-0.580%	-1.456	43.000%	-1.111	-1.534		
With no increase	167	-0.613%	-1.927*	41.916%	-1.868*	-1.847*	0.033%	0.065
Offshore shares								
With B shares or H shares	12	0.292%	0.150	58.333%	0.289	0.196		
without B shares or H shares	273	-0.681%	-2.746***	41.758%	-2.382**	-2.741***	0.973%	0.780
Special Treatment Status (ST)								
Firms under ST status	19	0.305%	0.230	52.632%	0.000	0.181		
Firms not under ST status	266	-0.706%	-2.815***	41.729%	-2.352**	-2.679***	1.011%	1.009

**Table 3 (continued)**

Category	No. of obs.	CAR [-1, 4]	T-test of CAR=0	% CAR positive	Sign test	Wilcoxon signed rank test	CAR difference (Higher – Lower)	t-test of mean difference
Percentage of largest shareholder's ownership								
Above median	142	-1.126%	-3.232***	38.028%	-2.695***	-3.263***		
Below median	142	-0.157%	-0.442	46.853%	-0.339	-0.344	0.969%	1.944*
State-ownership (SOE)								
Non SOE firms	69	-0.404%	-0.907	42.029%	-1.091	-1.454		
SOE firms	216	-0.715%	-2.397**	42.593%	-1.854*	-2.137**	0.311%	0.531
<b>Panel B: Sorted on Loan Characteristics</b>								
Repayment of old debts								
Loan used for repaying old debts	66	-1.111%	-1.903*	39.394%	-1.488	-1.912*		
Other purposes	219	-0.498%	-1.815*	43.379%	-1.637	-1.795*	0.613%	1.032
Investment								
Loan used for long term investment	261	-0.627%	-2.411**	42.529%	-2.063**	-2.373**		
Other purposes	22	-0.696%	-0.711	40.909%	-0.639	-0.796	0.069%	0.073
Maturity								
One year or shorter	218	-0.655%	-2.215**	43.578%	-1.572	-1.982**		
Longer than one year	67	-0.593%	-1.282	38.806%	-1.600	-1.546	0.062%	0.105
<b>Panel C: Sorted on Lender Characteristics</b>								
Bank Levels								
Loans issued by local branches	142	-0.626%	-1.753*	40.845%	-1.944*	-1.881*		
Loans issued by headquarters or main provincial branches	94	-0.465%	-1.071	43.617%	-1.037	-1.121	0.161%	0.286
Lender type								
Big 4 state bank	118	-0.726%	-2.084**	38.983%	-2.052**	-2.162**		
Other banks	167	-0.579%	-1.654*	44.910%	-1.090	-1.525	0.147%	0.289
Bank ownership								
Private banks	3	4.700%	1.709*	100.000%	1.155	1.336		
State owned banks	278	-0.683%	-2.698***	42.446%	-2.235**	-2.616***		

**Table 4**  
**Correlation Matrix for Regression Variables**

CAR[-1,4] is the cumulative average abnormal return from one day prior to 4 days after the announcement. MKT\_CAP is the natural log of the market value of tradable shares. RPT is the change in other accounts receivables (scaled by total assets) due to related party transactions from the announcement year over the prior year. ROA\_UP is the dummy variable set to 1 if ROA increased in the announcement year over the previous year. PURPOSE\_REPAY is the dummy variable set to 1 if the purpose of a loan is to repay old debts. PURPOSE\_INVEST is a dummy set to 1 if the intended purpose of the loan is investment. BIG4\_LENDER is a dummy set to 1 if the lender is one of the four largest state-owned banks. B\_H\_SHARES is a dummy set to 1 if the borrower has foreign classes of equity outstanding. POLITICAL is a dummy set to 1 if a board director of the borrower has ever worked in a government agency. DISTRESS is a dummy set to 1 if regulators classified the borrower as under “special treatment” (ST status). SOE is a dummy variable that equals 1 if the borrowing firm is controlled by state-owned entities. SUB\_BRANCH is a dummy set to 1 if a loan originated with a bank’s local branch below the provincial level. CTRL\_RIGHT is a dummy set to 1 if the percentage of shares outstanding owned by the largest shareholder is greater than the median value. \*\*\*, \*\*, and \* denote significance at 1, 5, and 10 percent levels, respectively.

	MKT_CAP	RPT	ROA_UP	B_H_SHARES	CTRL_RIGHT	DISTRESS	SOE	POLITICAL	PURPOSE_INVEST	PURPOSE_REPAY	SUB_BRANCH	BIG4_LENDER
CAR[-1,4]	0.070	-0.085	0.078	0.046	-0.078	0.060	-0.032	0.021	-0.037	-0.061	-0.019	-0.017
MKT_CAP		0.051	-0.060	0.157***	0.100	-0.010	0.117	0.012	0.002	-0.049	-0.034	-0.015
RPT			-0.084	0.015	0.044	0.018	-0.034	-0.135	0.015	0.037	-0.060	-0.078
ROA_UP				0.244***	-0.096	0.241***	-0.091	0.064	0.087	0.111*	0.055	-0.033
B_H_SHARES					-0.022	0.434	0.078	-0.009	0.055	0.175***	0.042	-0.034
CTRL_RIGHT						-0.109	0.152***	-0.017	0.075	-0.087	0.255***	-0.145**
DISTRESS							0.020	-0.053	0.111*	0.320***	0.059	-0.053
SOE								0.013	0.033	-0.059	-0.006	-0.173***
POLITICAL									0.054	-0.044	-0.002	-0.065
PURPOSE_INVEST										-0.053	-0.095	-0.067
PURPOSE_REPAY											-0.014	-0.006
SUB_BRANCH												-0.163***

**Table 5**  
**Regressions Explaining Cumulative Abnormal Returns around Bank Loan Announcements**

This table reports regressions of cumulative abnormal return from one day prior to 4 days after the announcement, (CAR[-1,4]) on firm and loan characteristics. MKT\_CAP is the natural log of the market value (in millions) of tradable shares. RPT proxies for “tunneling” measured with change in other accounts receivables (scaled by total assets) due to related party transactions from the announcement year over the prior year. ROA\_UP is a dummy variable that equals 1 if ROA in the announcement year increased over the previous year. B\_H\_SHARES is a dummy set to 1 if the borrower has foreign classes of equity outstanding. CTRL\_RIGHT is a dummy that takes value of 1 if the percentage of shares outstanding owned by the largest shareholder is greater than the median value, DISTRESS is a dummy set to 1 if regulators classified the borrower as under “special treatment” (ST status). SOE is a dummy variable that equals 1 if the borrowing firm is controlled by state-own entities. POLITICAL is a dummy set to 1 if a board director of the borrower has ever worked in a government agency. PURPOSE\_INVEST is a dummy set to 1 if the intended purpose of the loan is investment. PURPOSE\_REPAY is a dummy set to 1 if intended purpose of the loan is to repay existing debt. SUB\_BRANCH is a dummy set to 1 if a loan is originated with a bank’s local branch below the provincial level. BIG4\_LENDER is a dummy set to 1 if the lender is one of the four largest state-owned banks. BANK FIXED EFFECTS are a set of dummy variables for eight main banks in the sample, which include the Big4 state banks and four joint equity banks (Huaxia Bank, JiaoTong Bank, Merchants Bank, and MinSheng Bank). White heteroskedasticity-consistent t-statistics are reported in parentheses. “\*\*\*”, “\*\*”, and “\*” indicate significance at the 1, 5, and 10 percent levels, respectively. Sample size is reduced due to unavailable data in “other receivables” (for variable RPT), whether a loan is originated with a bank’s local branch (SUB\_BRANCH), or is intended for long term investment (PURPOSE\_INVEST).

MODEL	1	2	3	4	5
MKT_CAP	8.342 (1.547)	6.237 (1.127)	6.747 (1.340)	4.452 (0.887)	8.333 (1.551)
RPT	-0.869*** (-5.480)	-0.887*** (-8.361)	-0.914*** (-8.430)	-0.974*** (-7.597)	-0.854*** (-7.841)
ROA_UP	0.005 (0.732)	0.006 (0.966)	0.006 (0.927)	0.008 (1.120)	0.005 (0.732)
B_H_SHARES	-0.001 (-0.026)	-0.001 (-0.040)	0.002 (0.095)	0.003 (0.130)	-0.001 (-0.024)
CTRL_RIGHT	-0.018*** (-2.998)		-0.016*** (-2.610)		-0.018*** (-3.018)
DISTRESS	0.009 (0.475)	0.011 (0.514)			0.009 (0.470)
SOE		0.004 (0.718)		0.005 (0.737)	
POLITICAL	-0.001 (-0.137)				
PURPOSE_INVEST			-0.011* (-1.779)	-0.012* (-1.802)	
PURPOSE_REPAY	-0.014* (-1.778)	-0.013 (-1.620)			-0.014* (-1.786)
SUB_BRANCH	-0.002 (-0.371)	-0.005 (-0.856)	-0.004 (-0.697)	-0.008 (-1.267)	-0.002 (-0.367)
BIG4_LENDER	-0.014 (-1.618)		-0.014* (-1.686)	-0.008 (-0.952)	-0.014 (-1.684)
INTERCEPT	0.005 (0.471)	-0.014* (-1.701)	0.002 (0.224)	-0.010 (-0.908)	0.004 (0.460)
BANK FIXED EFFECT	included	included	included	included	included
Adjusted R – squared	-0.055	0.020	0.036	0.008	0.060
Observations	197	197	194	194	197

**Table 6**  
**Factors Affecting the Likelihood of Receiving a Bank Loan**

This table reports results of logit regressions for determinants of receiving bank loans. The dependent variable is for firm-events in our loan announcement sample and 0 for matching firms that did not have loan announcements and have no increase in long term debt on their balance sheets. For each firm-event in our loan announcement sample, we first identify all other companies from the same industry and select the one with the closest amount of total assets as the matching firm. We restrict the difference in total assets to  $\pm 10\%$ . We obtain a total of 277 firms as the matching group. Thus, the total number of observation is 562. ROA is return on assets in the accounting year prior to the announcement year. TAX\_CHANGE is the change in corporate income and business taxes in the announcement year over the prior year, divided by the total assets. SOE is a dummy variable set to 1 if the largest shareholder is a state enterprise. MANAGERIAL\_EXP is the change in total managerial expenses in the announcement year over the prior year, divided by total assets. Z-scores are reported in parentheses. “\*\*\*”, “\*\*”, and “\*” indicate significance at the 1, 5, and 10 percent levels, respectively.

	1	2	3	4	5	6
Intercept	0.261** (2.347)	0.038 (0.454)	0.021 (0.244)	-0.083 (-0.643)	0.104 (0.845)	0.124 (0.816)
ROA	-0.070*** (-3.963)					-0.069*** (-4.110)
TAX_CHANGE		-14.712 (-1.629)				-11.035 (-1.184)
MANAGERIAL_EXP			0.932* (1.717)		0.998* (1.847)	1.412* (1.900)
SOE				0.195 (1.145)	0.219 (1.274)	0.222 (1.266)
Observations	562	562	562	562	562	562

**Table 7**  
**Accounting Performance Before and After Bank Loan Announcements**

This table reports the percentage return on assets (ROA) and return on equity (ROE) around bank loan announcements.  $ROA_{-1}$  and  $ROE_{-1}$  are the ROA and ROE of a company in the accounting year before the bank loan announcement.  $ROA_0$  and  $ROE_0$  are the ROA and ROE in the announcement year, while  $ROA_1$  ( $ROA_2$ ) and  $ROE_1$  ( $ROE_2$ ) are the ROA and ROE in the first (second) accounting year after the announcement. We report both raw and industry adjusted values. The adjustment consists of subtracting median or mean industry ROA or ROE from raw values. We exclude observations with negative earnings and negative assets as well as those companies under special treatment status (ST), as these companies are particularly prone to providing very misleading accounting information. The final sample size is 251. T-test (sign-test) tests the difference in mean (median) of ROA and ROE. “\*\*\*\*”, “\*\*\*”, and “\*\*” indicate the test in the mean (median) difference is significant at the 1, 5, and 10 percent levels, respectively.

		ROA <sub>-1</sub>	ROA <sub>0</sub>	ROA <sub>1</sub>	ROA <sub>2</sub>	ROE <sub>-1</sub>	ROE <sub>0</sub>	ROE <sub>1</sub>	ROE <sub>2</sub>	T-test on mean (ROA <sub>1</sub> - ROA <sub>0</sub> )	Sign test on median (ROA <sub>1</sub> - ROA <sub>0</sub> )	T-test on mean (ROE <sub>1</sub> - ROE <sub>0</sub> )	Sign test on median (ROE <sub>1</sub> - ROE <sub>0</sub> )	T-test on mean (ROA <sub>2</sub> - ROA <sub>0</sub> )	Sign test on median (ROA <sub>2</sub> - ROA <sub>0</sub> )	T-test on mean (ROE <sub>2</sub> - ROE <sub>0</sub> )	Sign test on median (ROE <sub>2</sub> - ROE <sub>0</sub> )
Raw	Mean	1.96	-1.29	-3.41	-6.78	2.78	-1.39	-1.67	-32.81								
	Median	3.26	2.33	1.623	1.01	6.94	6.48	4.26	3.00								
	Max	16.14	13.71	13.29	26.67	27.91	315.86	315.86	315.86	-3.40***	-5.56***	-2.75***	-3.91***	-3.72***	-4.04***	-1.67*	-3.35***
	Min	-66.21	-311.99	-311.99	-311.99	-301.98	-1076.87	-491.91	-5763.68								
	Std. Dev.	7.35	27.33	33.02	36.00	24.49	71.06	42.45	359.77								
Adjusted by industry median	Mean	-1.71	-4.60	-6.49	-10.38	-5.18	-8.77	-8.82	-38.06								
	Median	-0.52	-0.90	-1.46	-2.34	-1.35	-1.20	-3.49	-3.83								
	Max	12.77	10.17	10.32	21.66	26.59	308.19	308.19	308.19	-2.83***	-3.66***	-2.68***	-2.78***	-3.86***	-4.55***	-1.67*	-3.28***
	Min	-70.16	-314.99	-314.99	-314.99	-309.90	-1083.03	-500.64	-5771.83								
	Std. Dev.	7.30	27.31	33.03	35.89	24.67	70.66	41.98	350.27								
Adjusted by industry average	Mean	0.17	-2.52	-3.73	-6.85	3.45	2.05	5.10	-26.84								
	Median	0.87	0.66	1.02	0.17	4.33	5.66	7.09	4.72								
	Max	14.11	31.30	16.00	26.91	444.54	324.17	324.17	324.17	-1.15	-1.39	-1.00	-2.78***	-3.30***	-1.77*	-1.64*	-2.90***
	Min	-66.96	-311.91	-311.91	-311.91	-298.45	-1064.99	-487.47	-5758.46								
	Std. Dev.	7.44	27.30	32.99	35.43	36.14	71.19	42.44	350.06								

**Table 8**  
**Accounting Performance of Matching Companies**

The table reports percent changes in return on assets (ROA) and return on equity (ROE) of companies in matching groups constructed by first selecting companies that have similar total assets to our sample companies and then grouping based on long term loans on the balance sheet. In panel A, the matching group includes companies that do not have bank loan announcements but have recorded increases in long-term loans on their balance sheet for a particular accounting year during our sample period. In panel B, the matching group includes companies that do not have increases in long-term loans in their balance sheet for any particular accounting year during our sample period. T-test (sign-test) is for testing the difference in mean (median) of ROA and ROE. “\*\*\*”, “\*\*”, and “\*” indicate significance at the 1, 5, and 10, percent levels, respectively.

	ROA <sub>-1</sub>	ROA <sub>0</sub>	ROA <sub>1</sub>	ROA <sub>2</sub>	ROE <sub>-1</sub>	ROE <sub>0</sub>	ROE <sub>1</sub>	ROE <sub>2</sub>	T-test on mean (ROA <sub>1</sub> - ROA <sub>0</sub> )	Sign test on median (ROA <sub>1</sub> - ROA <sub>0</sub> )	T-test on mean (ROE <sub>1</sub> - ROE <sub>0</sub> )	Sign test on median (ROE <sub>1</sub> - ROE <sub>0</sub> )	T-test on mean (ROA <sub>2</sub> - ROA <sub>0</sub> )	Sign test on median (ROA <sub>2</sub> - ROA <sub>0</sub> )	T-test on mean (ROE <sub>2</sub> - ROE <sub>0</sub> )	Sign test on median (ROE <sub>2</sub> - ROE <sub>0</sub> )
<b>Panel A: Companies with increases in long-term loans on their balance sheet but without bank loan announcements (Sample size: 119)</b>																
Mean	0.51	1.36	0.24	-16.71	-13.91	0.50	-236.67	3.01								
Median	2.11	2.27	1.70	1.89	6.02	6.39	4.05	5.68								
Maximum	10.94	17.44	14.59	25.54	27.30	30.37	33.57	59.89	-1.94*	-5.67***	-2.25**	-3.70***	-2.55**	-3.70***	0.661	-3.99***
Minimum	-41.37	-62.49	-70.61	-875.34	-574.00	-230.36	-13479.38	-184.99								
Std. Dev.	8.77	7.49	10.54	121.42	82.59	32.98	1776.32	24.15								
<b>Panel B: Companies without increases in long-term loans on their balance sheet (Sample size: 153)</b>																
Mean	0.08	-0.39	-21.09	-0.39	2.35	-340.30	0.01	-1.59								
Median	2.34	2.32	2.03	2.38	5.29	5.11	5.67	4.80								
Maximum	13.04	17.79	22.64	20.70	81.18	342.49	30.87	621.15	-1.57	-0.57	-1.51	0.62	-2.28**	-1.37	-0.37	-1.26
Minimum	-168.64	-72.41	875.34	-42.46	-161.00	13479.38	-306.71	-397.07								
Std. Dev.	15.17	14.19	138.37	11.23	22.85	2131.64	30.54	66.37								

**Table 9**  
**Accounting Performance for Sub-groups**

The table reports percent changes in return on assets (ROA) and return on equity (ROE) for subgroups of companies. “\*\*\*”, “\*\*”, and “\*” indicate significance at the 1, 5, and 10 percent levels, respectively.

	ROA <sub>-1</sub>	ROA <sub>0</sub>	ROA <sub>1</sub>	ROA <sub>2</sub>	ROE <sub>-1</sub>	ROE <sub>0</sub>	ROE <sub>1</sub>	ROE <sub>2</sub>	T-test on mean difference (ROA <sub>1</sub> -ROA <sub>0</sub> )	Sign test on median difference (ROA <sub>1</sub> -ROA <sub>0</sub> )	T-test on mean difference (ROE <sub>1</sub> -ROE <sub>0</sub> )	Sign test on median difference (ROE <sub>1</sub> -ROE <sub>0</sub> )	T-test on mean difference (ROA <sub>2</sub> -ROA <sub>0</sub> )	Sign test on median difference (ROA <sub>2</sub> -ROA <sub>0</sub> )	T-test on mean difference (ROE <sub>2</sub> -ROE <sub>0</sub> )	Sign test on median difference (ROE <sub>2</sub> -ROE <sub>0</sub> )
<b>Panel A: Companies with negative CAR[-1,4] (Number of observations = 159)</b>																
Mean	2.37	-0.72	-3.81	-3.80	2.48	5.21	0.22	-7.95								
Median	3.35	2.54	2.12	1.45	6.93	6.68	5.58	3.85								
Maximum	16.14	13.71	13.29	26.67	27.91	315.86	34.73	315.86	-0.89	-4.28***	-2.14**	-2.66***	-2.26**	-2.71**	-1.76*	-1.81*
Minimum	-42.93	-311.99	-311.99	-250.49	-301.98	-106.08	-138.20	-1076.87								
Std. Dev.	6.53	26.05	36.08	27.29	29.69	29.61	21.20	95.40								
<b>Panel B: Companies with positive CAR[-1,4] (Number of observations = 121)</b>																
Mean	1.475	-2.16	-3.064	-10.83	3.24	-10.30	-4.38	-65.35								
Median	3.192	2.20	1.029	0.65	7.08	6.29	3.56	2.21								
Maximum	11.174	11.79	12.62	19.65	23.16	29.14	315.86	36.23	-0.25	-3.46***	-0.59	-2.96***	-2.93***	-3.09***	-1.34	-1.07
Minimum	-66.21	-311.99	-311.99	-311.99	-106.08	-1076.87	-491.91	-5763.68								
Std. Dev.	8.37	29.54	29.41	45.29	15.93	103.13	60.52	541.97								
<b>Panel C: Companies in the lowest 20% CAR [-1,4] (Number of observations = 57)</b>																
Mean	2.17	1.589	-5.722	-7.77	2.43	9.28	-2.99	-1.43								
Median	3.16	2.330	1.588	1.21	6.92	6.93	4.55	3.29								
Maximum	16.14	13.705	13.289	26.67	24.74	315.86	34.73	33.34	-1.91*	-2.24**	-2.12**	-1.40	-2.26**	-2.80***	-2.48**	-2.51**
Minimum	-21.86	-12.410	-311.996	-250.49	-99.98	-27.84	-138.20	-133.54								
Std. Dev.	5.90	5.290	41.981	42.70	19.69	42.84	27.12	26.75								
<b>Panel D: Companies in the highest 20% CAR [-1,4] (Number of observations = 57)</b>																
Mean	1.30	-6.01	-1.77	-6.70	3.48	-25.27	-16.71	-36.17								
Median	3.23	2.70	1.19	1.01	6.57	6.39	3.95	2.70								
Maximum	9.54	11.79	12.62	14.45	21.47	29.14	25.29	30.61	0.78	-1.85*	-1.11	-2.04**	-1.50	0.71	-1.20	0.00
Minimum	-26.12	-311.99	-37.33	-136.32	-54.24	-1076.87	-491.91	-576.37								
Std. Dev.	6.70	42.67	10.34	27.81	13.23	149.75	75.27	115.51								