When debt is bad news:

Market Reaction to Debt Announcements under Poor Governance[*]

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Abstract

With well functioning financial intermediaries, debt can be a useful screening and signaling device. However, under poor governance and inefficient and corrupt financial system, managers can use the proceeds of debt issues in their own interests, rather than the interests of minority shareholders. Using data from China's financial markets, we find that bank loan announcements generate negative abnormal returns to firms that have low governance quality and borrow from banks with weak monitoring ability. The results also indicate that non-state banks have superior monitoring ability compared to state-owned banks, and we find limited evidence that reforms in China have improved the efficiency of the banking system.

JEL Classification: G14, G21, G32

Key words: Debt, Corporate Governance, Expropriation,Tunneling,
            Monitoring

1 Introduction

Extensive research, both theoretical and empirical, suggests that debt can mitigate the asymmetric information problem, and hence is a good signal to the market. Mikkelson and Partch (1986) first discover that bank credit line announcements generate positive borrower returns.[1] Financial intermediation theory supports their finding by arguing that banks have access to borrowers' private information through initial screening and ex post monitoring (Campbell and Kracaw 1980; Diamond 1984; etc.). Corporate finance literature, such as Grossman and Hart (1982), Jensen (1986), and Dewatripont and Tirole (1994), suggests that debt can mitigate the agency problem between managers and shareholders. The underlying mechanisms include the threat of default and bankruptcy, loss of reputation, and monitoring by creditors.

Nevertheless, in spite of the bankruptcy risk induced by high leverage, debt can be abused to meet managers' personal interests, or used by controlling shareholders to expropriate values of minority shareholders[2]. Enron, for instance, vividly revealed to us that debt may have nothing to do with alleviating asymmetric information between insiders and outsiders. Since the 1990's, Enron was obligated to look for large amounts of external finance due to its disastrous investment decisions. The borrowed money was abused, embezzled, and also used to facilitate financial fraud directly. Blessed by several of the best known names on Wall Street, Enron kept successfully issuing bonds and obtaining loans despite the fact that it had already been in serious financial crisis. First, a number of banks, including J.P. Morgan Chase, Citigroup and Merrill Lynch & Co. were accused of helping Enron design complex transactions that allowed it to underreport its debt. Second, rating agencies utterly failed in warning investors about Enron's collapse. On October 22, 2001, the SEC asked the company to disclose its ties to outside investment partnerships, and Enron's stock dropped by 20%. But four days later, a Standard and Poor's credit rating analyst appeared on CNN and alleged that the company was still considered a good risk. Even after Enron disclosed that it had overstated earnings by over half a billion dollars since 1997, the rating agencies kept Enron at "investment grade."

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[1]Then after, several studies demonstrate that positive excess returns are associated with lender's type (e.g. James 1987), lender's credit quality (e.g. Holthausen and Leftwith 1986; Hand et al. 1992; Billet et al. 1995; and Boscaljon and Ho 2004), debt type (e.g. Lummer and McConnell 1989, McDolnald 1995, and Harvey et al. 2003), and borrower's attributes (e.g. James 1996; and Slovin et al. 1992).

[2]La Porta et al (1998), Shleifer and Vishny (1997), and Wolfenzen(1999) argue that large shareholders can expropriate value from minority shareholders through pyramid and cross-shareholding. Claessens, Djankov, Fan, and Lang (1999) use data from firms in nine Asian countries to show that expropriation of minority shareholders by large shareholders is the rule rather than the exception. Such instances occur even in well-developed countries. Bergstrom and Rydqvist (1990), Barclay and Holderness (1989), Zingales (1994), and Weinstein and Yafeh (1998) find evidences of shareholder expropriation in Sweden, US, Italy, and Japan, respectively.

By November 28, the day Moody's and Standard & Poor's downgraded Enron to junk bond status, the company's stock was trading at just over a dollar. As we know four days later, it went into bankruptcy. In Enron's case, neither the banks, nor the auditors, nor the rating agencies fulfilled their monitoring functions.

Expropriation of minority shareholders through debt is even easier in countries where the regulation and legal environment is weak, such as some European countries and many emerging economies. At the beginning of the year 2006 in China, Shanghai National Accounting Institute published a list of "Top 20 Tunnelling[3] Events in Year 2005". All the related firms were extremely leveraged with an average debt-to-equity ratio in excess of 530%. The assets and the profits of these firms were transferred to their controlling shareholders by multiple means, such as related transactions[4] at unfair non-market prices, loan guarantees (using assets of firms in control as collateral), accounts receivable, and even cash dividends(See Faccio et al 2001, Lee and Xiao 2004).[5] Even though thousands of similar cases indicate that debt can play a negative role, very little work has been done to study whether investors can anticipate that the proceeds of debt issues can be expropriated based on publicy available information, such as corporate's statements and analyst's reports.

In this paper, we examine the effect of corporate governance as well as bank's monitoring ability on market reaction to debt announcements.[6] With inefficient inside and outside supervision, large shareholders may exploit their absolute control rights to expropriate benefits and assets of firms in control. To support such tunneling activities, controlling shareholders need to seek more external finance, including debt. The value of firms as well as the type of controlling shareholders is private information for the market. Debt announcements can partially reveal such hidden information. For instance, when a borrowing firm with questionable governance announces a debt issue, rational investors anticipate a high probability of expropriation based on publicly available information, and hence devaluate the firm. The more vulnerable to expropriation the borrowing firm is, the larger loss in market value it will suffer after announcing a debt issue. To justify these hypotheses, we apply a conventional event study method to calculate abnormal returns for debt announcements. We then explore the relationship between the magnitude of abnormal

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[3]Johnson et al (2000) note that the term "tunneling" is used originally to characterize the expropriation of minority shareholders in Czech Republic to describe the transfer of assets and profits out of firms for the benefit of those who control them.

[4]A business deal or arrangement between two parties who are joined by a special relationship prior to the deal. For example, a business transaction between a major shareholder and the corporation, such as a contract for the shareholder's company to perform renovations to the corporation's offices, would be deemed a related-party transaction.

[5]Some examples of tunneling are illustrated in Appendix.

[6]Specifically, we study loan announcements due to the fact that we cannot get sufficient bond issue data since the corporate bond market in China is very underdeveloped. See Section 2 for more details.

returns with corporate governance attributes and lender's monitoring ability.[7]

Two conditions may induce devaluation of borrowing firms following debt announcements: poor governance and weak monitoring. We find that China's financial markets provide a fit environment for this study. First, even though suffering many serious problems (such as inefficiency, lacking fiduciary duty, fraud, and a mountain of non-performing loans), China's 16-year old stock market is growing with an incredible speed[8] The high concentrated ownership structure, the bureaucratic coordination between state-owned enterprises and state-owned banks, and the weak legal protection of minority shareholders create large opportunities of expropriation and/or tunnelling, which provides us an ideal sample for the underlying research. Second, ongoing reforms in China's financial system allow the coexistence of banks with multiple ownership structures and distinct levels of efficiency. Thus, we can take very effective tests of whether and how bank's monitoring ability matters in market response to loan announcements. In addition, to our knowledge, no other paper studying the problem of debts and expropriation has used data from Mainland China. It will be worthwhile and interesting to understand the differences between China and other emerging economies.

Our results challenge the debt's value-creating/agency cost alleviating theory. The paper makes several contributions to the existing literature. First, it provides the first empirical evidence that debt generates negative announcement period abnormal returns. This suggests that debt issue is a bad sign to outside investors in economies with poor corporate governance and inefficient financial intermediaries. Second, we find that the devaluation effect of debt announcements is concentrated in firms which report related party transactions, which are controlled by state-owned enterprises, and whose controlling shareholders confront little challenge from other large shareholders. Third, our results show that bank's monitoring ability can abate the negative effect of borrowing firms' poor governance. However, borrowing from inefficient and corrupt banks exacerbates the decrease in firms' market value. Moreover, we find that shareholders of firms with low profitability and high growth opportunity lose the most. The surprising result is that investors take guaranteed loan issues as bad news, suggesting that secured loans are more likely to be expropriated.

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[7]If rational investors can anticipate the probability of occurings of loan announcements based on some firm and bank specific public information, endogeneity bias in cross-section regressions may exist. However, even that is the case, the estimats of parameters in our cross-sectional regressions are biased toward zero. So under traditional event study method, we may underestimate the effects of governance and monitoring. In addition, the conditional event study methods suggested by Acharya (1993) and Prabahala (1997) perform better only if we can find a group of appropriate non-event firms, which is very difficult in our case. A deeper discussion is given in Section 6 and the Appendix.

[8]According to Tian (2005), China's market capitalization increased at the average rate of 63.3% per year between 1992 and 2003. The number of listed firms grew 43.4% annually, from 53 in 1992 to 1287 in 2003.

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Our paper differs from previous work in several aspects. First, the existing literature has focused on whether debt type is correlated to abnormal returns or whether corporate governance influence firm value. For instance, James (1987) suggests that banks play an important and unique role as transmitters of information in capital markets. He finds a positive stock price response to the announcement of new bank credit agreements that is larger than the stock price response associated with announcements of private placements or public straight debt offerings. McDolnald (1995) demonstrates that large abnormal returns are associated with revolving credit agreements and in contrast, the straight line of credit is considered less of reliable signal by the market.[9] Lemmon and Lins (2003) study the effect of ownership structure on value during the region's financial crisis and find that crisis period stock returns of firms in which managers have high levels of control rights, but have separated their control and cash flow ownership, are 10% to 20% lower than those of other firms. Our paper, on the other hand, examines the effect of corporate governance on share prices reaction to debt financing. Second, while most research indicates that the separation between control rights and cash flow rights through pyramid structure and cross-shareholdings can induce tunneling (e.g. Harvey et al 2004; Lemmon and Lins 2003), our paper find investors believe that tunneling can happen within firms withouth such separation[10]. Instead, we use multiple proxies to measure the vulnerability to expropriation, including related transaction ratio, ultimate control, ownership concentration, and group affiliation. We find that negative abnormal returns are indeed concentrated in firms controlled by governments. This result suggests that expropriation can occur in firms without the separation between ownership and control. Additionally, Lacking domestic loan issue data makes Harvey at al (2004) impossible to study the interaction between internal governance and external monitoring, but this paper compensates their missing.

The remainder of the paper is organized as follows. Section 2 gives a background overview of corporate governance and banking system in China. Section 3 develops the hypotheses. Section 4 describes the data, proxy selection, methodology and presents the summary statistics about the sample. The results of univariate analysis and of multivariate analysis for abnormal returns are summarized in Section 5. Section 6 offers robustness checks. Conclusions are in Section 7. Some figures, tables and proofs are gathered in the Appendix.

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[9]In addition, Lummer and McConnell (1989) support the hypothesis that bank loans convey information, but they find new bank loans do not communicate information. Shielfer and Vishny (1997) suggest that bankers actively investigate corporate quality and evaluate the investment risk during the renewal of bank loans.

[10]Fan et al (2005) report that the ratio of the largest ultimate owners' cash flow rights to voting rights for government-controlled firms is 96%. For entrepreneur-controlled firms, the ratio is only 54%.

2 Corporate Governance and Banking System in China

2.1 Firm Governance

Table 1 outlines some governance characteristics of Chinese listed firms. At the end of 2004 for 1353 listed firms in Shanghai Stock Exchange and Shenzhen Stock Exchange, the average shares owned by the largest shareholders' were 41.8%. A large majority (78.9%) of listed firms in China have a parent company. Group affiliation complicates listed firms' operations and also reduces their transparency. For 69.59% of Chinese firms, their ultimate controlling shareholder is the central government, local governments or other state-owned enterprises (SOEs). The sum of shares held by the second largest shareholder to the tenth largest shareholder is only 20%, but with a maximum level at 66.03%. The table suggests that the ownership is highly concentrated among Chinese listed firms. However for some companies, if majority shareholders joint each other, they can still accumulate a considerable number of votes to challenge the largest shareholders.

Table 1
Summary Statistics of Corporate Governance in China 2004
The sample is composed of 1353 listed firms in Shanghai and Shenzhen Stock Exchanges.

Variable	Mean	Minimum	Median	Maximum	S.D.
Shares held by the largest shareholder (%)	41.8	2.25	39.8	85	16.85
Listed firms has a parent firm* (%)	78.9	0	100	100	40.8
Dummy the CEO is also the chair of board*	0.346	0	0	1	0.476
Ratio of outside directors (%)	34	0	0.33	0.6	0.05
Shares held by top management (%)	0.06	0	0	14.6	0.006
Firms has H and B shares* (%)	9.9	0	0	100	29.9
Sum of shares held by the second to the tenth largest shareholders (%)	20.0	0.36	17.95	66.03	14.53
The largest shareholder is the state (%)	69.59	0	100	100	0.46

* According to Liu (2006).

We also observe that 34.6% of CEOs are also the chairmen of the board of directors, which to a large extent hinders the boards from effective supervision. The

proportion of outside directors of the boards is surprisingly high, with a mean of 34%. However, Chen, Fan and Wong (2004) argue that even with a high proportion of outside directors, board independence and professionalism are not necessarily good. They find that in China, politicians control most of the board seats. Almost 50% of directors are appointed by the State, and another 30% are affiliated with various layers of governmental agencies. There are few professionals (such as lawyers, accountants, and finance experts) on boards, and almost no representative of minority shareholders. In addition, top managers typically own little of their companies' shares (only 0.06% on average). Thus, incentive pay is unlikely to be an effective primary corporate governance mechanism in Chinese listed companies. Finally, neither dual listing nor multiple listing is common for Chinese firms. The proportion of companies which issue H-shares or B-shares is only around 10%.[11] Moreover, there are rare cases of hostile takeovers.

Overall, corporate governance in China can be best described as concentrated ownership, government control, management-friendly boards, inadequate financial disclosure, and inactive take-over markets. All these characteristics indicate that managers have little concern about their reputation in China, which makes inefficiency, corruption, empire building, entrenchment and expropriation become common issues.

2.2 A Brief Overview of China's Banking Sector

The banking sector plays a dominant role in China's financial markets. Domestic bank loans are the most important external financing source for Chinese firms.[12]. For example, listed firms rely on bank loans to raise around 30% of total financing needs, despite the fast growth of stock markets.[13] By the end of the year 2005, total assets of the banking sector made up more than 90% of total assets of all financial institutions in China.

Like listed companies, China's banks are mostly controlled by the State. According to La Porta, Lopez, Shleifer (2002), the Chinese government owned 99.45% of the largest commercial banks in 1995, which is the highest number among 92

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[11]H-shares refer to the companies incorporated in Mainland China and are listed on the Hong Kong Stock Exchange and other foreign stock exchanges.

B-shares refer to the companies incorporated in Mainland China and are traded in the mainland B-share markets (Shanghai and Shenzhen). B shares are quoted in foreign currencies. In the past, only foreigners were allowed to trade B shares. Starting from March 2001, mainlanders can trade B shares as well. However, they must trade with legal foreign currency accounts.

[12]Self -fundraising is the largest financial source for Chinese firms, including proceeds from capital raised from local government, communities, internal financing channels and other funds raised domestically by firms.

[13]Source: F.Allen, J.Qian and M.Qian (2005), "China's financial systems: past, present and future".
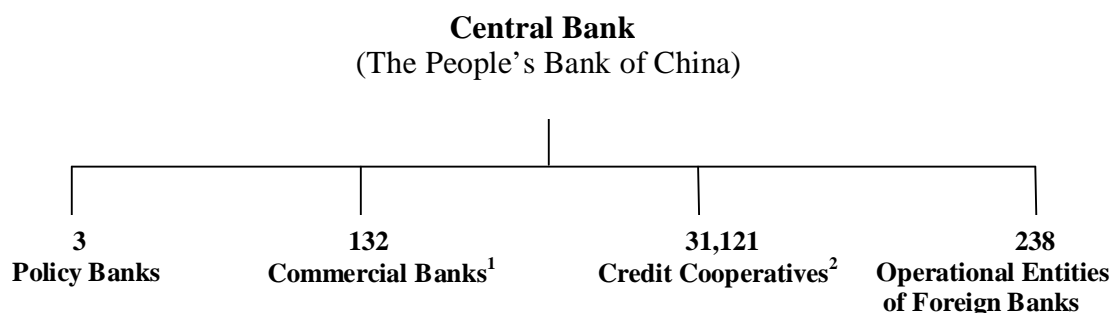
countries. Moreover, the four large state-owned banks[14], known as the "Big Four", account for 61% of the whole credit market. Due to reckless, government-ordering lending to state-owned enterprises, Chinese banks have piled up a mountain of problem loans over the past decades, sapping their competitiveness. In the end of Year 2002, the non-performing loans (NPLs) at the "Big Four" were up to 26.4% of total loans according to their annual accounts. Nonetheless, Standard & Poor's estimated the cost to clean up the bad loans would be around 50% of GDP.

To reduce NPLs, the ongoing reforms in the financial system have been focused on two aspects. (1) Pushing forward the fast growth of non state-owned banks and intermediaries. From Figure 1, we can see that among 132 commercial banks, there are four wholly state-owned banks, 13 joint-equity banks and 115 city commercial banks by the end of Year 2005. The joint-equity banks represent 13.7% of the total banking sector assets. City commercial banks, most of which are restructured and consolidated urban cooperatives, operate 5% of banking sector assets. Foreign banks are playing a positive and increasingly important role in China. They provide 20% of foreign currency loans in the total lending market.[15] (2) Privatizing state-owned banks. Following on the heels of Construction Bank of China and Bank of China, Industrial and Commercial Bank of China, the biggest state bank of China, has just went to public in October, 2006. The Chinese government expects to strengthen corporate governance and streamline operations with the help of foreign investors and public listings before the opening of China's financial markets to foreign competition by the end of Year 2006. Non state-owned domestic banks, including joint-equity banks, city commercial banks, and urban and rural credit cooperatives, are on average more efficient, with lower NPLs ratios (See Table A1.), and operating under less political pressures.

Compared with bond markets in developed nations or even in many emerging economies, China's corporate bond market is considerably underdeveloped. With respect to overall financing structure in China's capital market, new loans from financial institutions account for 85% of the total financing, while new issuance of stocks, treasury bonds, corporate bonds only account for 15%. Moreover, among new issues in 2003, only 2.9% is corporate bond issues. Since there is not an active corporate bond market in China, we only use bank loans to study the effect of debt issuing on borrowers' market value.

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[14]They are Industrial and commercial bank of China, Bank of China, Construction bank of China and Agriculture bank of China.

[15]Sources are the reports of China Banking Regulation Commission in the year of 2005.

Central Bank
(The People's Bank of China)

3	**132**	**31,121**	**238**
Policy Banks	**Commercial Banks**[1]	**Credit Cooperatives**[2]	**Operational Entities of Foreign Banks**

1. Four wholly state-owned commercial banks; 13 joint-stock commercial banks and 115 city commercial banks.

2. 626 urban credit cooperatives and 30,438 rural credit cooperatives, 57 rural cooperative/commercial banks.

3. Source: China Banking Regulation Commission, December 2005.

3 Hypotheses Development

3.1 The Mechanism of Market Reaction to Loan Announcement

Whether debt issuing is good news or bad news to the market depends on investors' anticipation on which role it plays. Debt can have two faces: a disciplinary device or a tool of expropriation.

(1) Debt as a disciplining device.

Jensen (1986) argues that debt constrains overinvestment by management through imposing fixed obligations on corporate cash flow. Underlying the constraint that debt imposes on managerial expropriation is the role of reputation in the manager market (Fama and Jensen (1983a,b)). Even if a management group does not have obvious conflicts, information asymmetry between managers and outsiders allows debt to create value because it gives management the opportunity to signal its willingness to pay out cash flows or be monitored by lenders or both (Leland and Pyle,1977; Diamond, 1991). Thus, debt contributes to mitigate both hidden actions and hidden information problems in financial contracting.[16]

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[16]Such view is confirmed by several empirical research, McConnell and Servaes (1995) find a positive relationship between debt and firm value using a sample of US companies that have low growth opportunities but excess cash flows. They conclude that debt has a disciplining role and confirm Jensen's control hypothesis that debt creats value. Harvey et al. (2004) analyze 18 emerging economies and conclude that certain types of debt contract, like international syndicated loans, are found to limit expropriation by managers or controlling insiders.

(2) Debt as a means of expropriation.

The above discussion mainly focus on a U.S. context. In contrast, most firms in emerging markets are controlled by families or the States. The key agency problem mainly exists between controlling shareholders and minority shareholders, instead of managers and investors (La Porta 2002). Recently, a handful of studies begins to empirically investigate the relation between expropriation and debt. Faccio, Young and Lang (2005) find that ineffective Asian capital market institutions allow controlling shareholders determine the leverage of group affiliations. And higher leverage means more vulnerable to expropriation. Using Spanish data, Pindado and De La Torre (2004) confirm that debt can be a tool of expropriation. Wiwattanakantang (1999) examines corporate financing policies in Thailand and finds evidence which is consistent with the view that leverage is used by family owners as a means of expropriation.

To see how a controlling shareholder can use debt to tunnel, we give a very simple example. Suppose a controlling shareholder owns 60% of a listed firm X and 100% of an unlisted firm Y. By forcing firm X to buy goods or shares from Y at a price in favor of firm Y, the controlling shareholder expropriates $100\% - 60\% = 40\%$ of the premium from such transaction. Minority shareholders, on the other hand suffer a loss of $40\% \times$ *the premium*. In order to finance such kinds of unfair transactions repeatedly, firm X needs to issue debts or new shares. Debt financing becomes more convenient for the controlling shareholder if external lenders are poor monitors. This actually happened to Sichuan Topsoft Investment Co. Ltd. (TOPS), the same listed company we mentioned in the Introduction. In July 2003, TOPS announced to change the purpose of raised money. It bought 90% shares of "TOP Zixun", who is owned by the same controlling shareholder as TOPS with a price of 33.75 million dollars. The net asset per share of "TOP Zixun" was only 12 cents, but the executive price was more than three times higher, at 37.5 cents per share. The total premium from this transaction attained to 22.5 million dollars.

3.2 Hypotheses

Overall, when rational investors anticipate that debt's tunneling role dominates its disciplinary role, they will devaluate the borrowing firm's value. Therefore, we should expect a negative market response to its debt announcement. In addition, we should also expect that firms which are more vulnerable to expropriation suffer greater losses in market values after their debt issues. On the other hand, a good bank with strong supervision incentive and ability can offset investors' gaingiving to some extent. Hence, our hypotheses are: in economies with low quality of corporate governance and inefficient or corrupt banking system:

H1: Bank loan announcements generate negative abnormal returns to borrowing firms when expropriation is a big issue;

H2: Firms' announcement period abnormal return is negatively related to firms' vulnerability to expropriation;

H3: Banks' screening and monitoring ability is positively correlated with market reactions to loan announcements, and it mitigates the negative effect of borrowing firm's poor governance.

Formally, the borrowing firm i's cumulative abnormal returns (CAR) for its loan announcement can be estimated as

$$CAR_i = \alpha + \beta X_i + \gamma Y_i + \lambda X_i Y_i + \mu C_i + \epsilon_i \tag{1}$$

where X_i is a vector of firm-specific characteristics which stands for firm i's vulnerability to expropriation, Y_i denotes bank's monitoring ability, and C_i is a group of control variables. Our hypotheses suggest that $\beta < 0$, $\gamma > 0$, and $\lambda > 0$.

4 Data and Methodology

4.1 Sample

Bank loan announcements are collected from *China infobank* database, Chinese leading financial newspapers: *Security Time* and *China's Security*, and the official web sites of *Shanghai Stock Exchange* and *Shenzhen Stock Exchange*. We begin our analysis with a sample that consists of 321 credit line announcements from January, 2001 to June, 2006. After eliminating samples affected by other significant events taking place around the loan announcement dates, such as earning reports, equity issuance, dividend paying, board turnover and so on, we obtain 261 clean observations from 169 listed non-financial firms. These firms' financial and accounting data are provided by *CCER Sinofin* database. The group affiliation information is manually collected from their corporate annual reports. The stock transaction data are drawn from *Datastream*.

4.2 Proxy Selection

Two proxies are used to measure the banks' screening and monitoring ability.[17]

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[17]We also consider to use banks' credit rating as a measure of monitorying ability. But according to the rating published by Standard & Poor's on June 22, 2006 (See Appendix A2), big-size state-owned firms are highly ranked due to their government background, in despite of their inefficiency and low profitability. Thus, credit rating may not be an appropriate measure for monitoring. If investors anticipate that state banks are the weakest monitor, we should observe a negative relation between credit rating and excess returns. We give detailed discussion in Section 6.

(1) Banks' ownership. We classify banks into five subgroups, the "Big Four" state-owned commercial banks, joint-equity banks, policy banks, city commercial banks and foreign banks. We expect to see distinct market reactions to loan announcements across these subgroups since ownership is directly associated with banks' monitoring incentives and efficiency, . As we mentioned in last section, the "Big Four" are the most inefficient players in the total financial system. Hence, we expect negative abnormal returns are concentrated in the firms borrowing from the "Big Four".

(2) Performing loans (PL) ratio, which is outstanding performing loans to outstanding total loans. The biggest threat to the stability of China's banking system is the prodigious amount of non-performing loans (NPLs), particularly in the "Big Four" state banks. NPL ratio reveals banks' supervision ability. Based on the reports of Asian Banker database in 2003 (See Appendix A1.), we rank banks into five levels. The "Big Four" state-owned banks who have the largest NPL ratio belong to Level one. Level two includes all city commercial banks whose mean NPL ratio is slightly lower than the "Big Four". Joint-equity banks are more efficient than the first two groups, accordingly they belong to Level three. Policy banks with even less bad loans are Level four. The best performer - foreign banks is in Level five.[18] Corresponding to each level, we then assign values 2, 4, 6, 8, and 10 respectively.

To measure firms' extent of vulnerability to expropriation (VTE), the following corporate governance variables are used.

(1) Disclosing related transaction (DRT), dummy which equals unity when the borrowing firm reports its related transaction. Firms without related party transaction reports are considered have less expropriation activities, thus are expected to experience better market reactions to loan announcements.

(2) Related transaction ratio, defined as the sum of related transactions to total prime operation revenues. It is computed based on the data from firms' quarterly and annual reports of the year of loan announcement . By taking advantage of their complex group structures, controlling shareholders can extract wealth from the firms in control through connected transactions at unfair prices. We then expect a negative correlation between RTR and abnormal returns during loan announcement periods.[19]

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[18]Values are not assigned to syndicate loans borrowed from state-owned banks as well as from joint-equity banks (27 announcements) because we do not observe a better market reaction from these joint lendings. So, it is difficult to tell political-driven loans from profit-driven loans.

[19]Not all types of related transactions can be used to tunneling. Some related transactions are more likely associated to tunneling, such as related goods or service purchase, related lending and investment, stock purchase, rent expenses, and loan guarantees. Other related thansactions might be means of propping.

Due to the data limitation, we could not distinguish these transactions according to types. This could lead to some bias in our results.

(3) Group affiliation, an indicator whose value equals one if a firm is controlled by a group both directly (Its parent firm is a group corporation.) and indirectly (Its ultimate owner controls a group of affiliated firms.). Firms that are affiliatd to groups more easily become targets of tunneling. We therefore expect that those firms are associated with more negative market reactions.

(4) Anti_control, computed as the shares held by the top two to five large shareholders divided by the shares held by the largest shareholder.[20] It measures the degree at which non-controlling large shareholders can challenge the controlling shareholders on the board. The larger the ANTI-CONTROL, the less likely that debt is used to expropriate minority shareholders.

(5) O/C ratio, which is the cash low rights to the control rights of the ultimate controlling owner. For exmaple, if a control owner holds 50% of Firm X which owns 23%of Firm Y that holds 15% shares of Firm Z, then this control owner's cash flow rights over Firm Z is $50\% \cdot 23\% \cdot 15\% = 1.725\%$, but his control rights in Firm Z is equal to 15% which is the weakest link along the ownership chain.

(6) Ultimate_control, dummy variable indicating whether the controlling shareholder of a borrowing firm is a state-owned company. When borrowers and lenders share the same controlling shareholder - the government, political concerns are mingled with financial interests, loans are no more a signal as alleviating agency costs, but a vehicle of expropriation. So, we expect loan announcements have negative effect on the value of state-owned firms.

In addition, we consider the following control variables:

(1) Firms' characteristics, including industry, leverage, beta (derived from the market model regression during the estimation window), firm size (the natural logarithm of total assets), profitability (earnings per share), and auditor's identity.

(2) Loans' characteristics, including maturity, loan size, security status.

4.3 Methods

To identify the effect of loan announcements on borrowers' market values, we apply a traditional event study method based on James (1987) and Brown & Warner (1985). Abnormal returns are defined as market model prediction errors. The parameters of the model are estimated by using time-series data over the estimation window. For each firm i, the expected return during the estimation window which begins from 250 days prior until 21 days prior to the event date $t = 0$.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \qquad \text{where} \quad t = -250, ..., -21 \qquad (2)$$

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[20]We also consider another anti-control measure: the second largest shareholder's cash flow rights to the largest shareholder's cash flow right. It gives us the same results.

The abnormal return for firm i is calculated from the actual returns during the event period which is a five-day period including one day prior to the announcement, the announcement date and three subsequent days.[21] The estimated coefficients are obtained from the estimation period.

$$AR_{it} = R_{it} - \widehat{\alpha}_i - \widehat{\beta}_i R_{mt}, \qquad \text{where} \quad t = -1, ..., +3 \tag{3}$$

The cumulative abnormal return is the sum of abnormal returns for this five-day event window.

$$CAR_i = \sum_{t=-1}^{+3} AR_{it} \tag{4}$$

To deal with the heteroskedasticity problem, we calculate the standardized abnormal return for each firms during the event periods, $SCAR_{it} = CAR_i/S_{it}$, where S_{it} is the residual variance for firm i from the market model regression. A standardized cross-sectional test based on Patell (1976) is used to test the statistical significance of abnormal returns. This test statistic, taking the following form, assumes cross-sectional independence in abnormal returns, and there is no event-induced change in the variance of the event period abnormal returns:[22]

$$t = \frac{\frac{1}{N} \sum_{i=1}^{N} SCAR_i}{\sqrt{N \frac{D-2}{D-4}}}$$

where N is the number of observations in the event period, and D is the number of observations in estimation period which equals 230 in our case.

Daily closing prices are used to compute daily returns. We proxy market returns using Shanghai Stock Exchange's composite index and Shenzhen Stock Exchange's composite index, respectively. If an announcement date is different among sources, we choose the earliest announcing date.

We use the loan announcement date as the event date (i.e. $t = 0$) instead of credit contract date based on two reasons. First, our sample research reveals that for outside investors, it is difficult to know the dates when the credit agreements are signed. Quite a lot of loan announcements do not indicate the contract dates.[23] Second, according to the market regulation, large loans are obliged to be announced timely, but there is no explicit explanation on the time requirement. We find that

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[21] In Section 6, we probe the robustness for choosing this event window. Figure 2 in Appendix presents the mean cumulative abnormal returns in a larger event window $\tau \in [-20, +10]$.

[22] Under a different assumption that abnormal returns are correlated to the magnitude of the variance , we construct a different t-statistic which gives us the same results.

[23] A statement mostly used in an announcement is "Recently, our company signed a loan contract with X Bank."

many firms are used to disclose loan agreements one or two months after signing the contracts. If stock prices do not show any response to loan announcements, it might be because such information has been already assimilated by the market. In addition, Chinese listed firms often announce their loan applications in their earlier board reports, which may also result in information leakage before actual loan announcements.

4.4   Summary Statistics

Table 2 indicates that Chinese listed companies have quite particular characteristics in terms of both ownership and financial structure. The full sample has a mean debt to total assets ratio of 58%. Compared to the evidence from developed and some other developing countries, our sample firms are higher leveraged.[24] The largest shareholders own on average more than 46% of total shares, presenting a very high concentrated ownership structure. Shares held by the second largest shareholder are only 11.34% of total shares, which is less than a quarter (24.44%) of those held by the largest shareholders. The average proportion of shares held by the top ten largest shareholders who are non- affiliated to controlling shareholders is only 23.07%, less than one half (49.4%) of the sum of shares held by the controlling shareholders and their affiliation in the top ten. In other words, non-controlling majority shareholders usually do not have enough voting rights to challenge controlling shareholders in board meetings. The average related transaction ratio for firms who report their related transactions equals to 0.91, which means the amount of related party transactions is almost as same as the amount of prime operating revenues. The highly concentrated ownership and the large size of related transactions both increase the possibility of expropriation. The average market value of equity (stock price* the number of publicly tradable shares) is only 41.8% of total assets.[25] Thus, we use total assets as the proper measure of firm size.

Compared to firms listed on Shanghai Stock Exchange, Shenzhen Exchange listed firms have on average smaller size ($255.81 millions vs. $437.75 millions), higher leverage (55.04% vs. 49.55%) and higher earnings per share (27.98% vs. 19.45%). However, firms on both Exchanges exhibit similar ownership attributes. The largest shareholders own on average 46.87% (respectively, 45.45%) of total shares in Shenzhen Exchange (respectively, Shanghai Exchange). The average ANTI-CONTROL is 49% for Shenzhen and 50% for Shanghai. Firms on Shanghai Stock Exchange engage in more related party transactions with a related transaction ratio of 1.17.

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[24]Rajan and Zingales (1995) reports the debt to total assets ratios of United States, United Kingdom, Japan and German are 27%, 24%, 42% and 16%, respectively.

[25]For state-owned firms, only about one third of total shares are publicly tradable. According to the reports of China's Securities Regulation Commission in 2003, the government owns more than 47% shares of all public listed companies.

Note that we observe a big difference between the number of firms and the number of announcements (169 $vs.$261) because several firms issue more often loan announcements. The impact of same firms appearing repeatedly in our sample is analyzed in Section 6.

As we mentioned in Section 2, Chinese banking system also carries special characteristics. Table 3 reports the summary statistics of loan announcements categorized by ownership. The "Big Four" state-owned commercial banks are larger in size compared with joint-equity banks which are mainly controlled by local governments. Among 261 loan announcements, the "Big Four" account for 53.3% [26]. The number of loans issued by joint-equity banks is 124 in total, which accounts for 47.5% of the full sample. City commercial banks provided 14 loans, and policy banks issued 8 loans. We only obtain one international syndicate loan. According to Standard and Poor's, the "Big Four" state-owned commercial banks are all rated above BBB. The policy banks is rated A^- and joint-equity banks are only rated among B to BBB^-.

Except the foreign loan, the largest loans came from policy banks, which is not surprising since most of them are used to finance huge infrastructure projects. We find that loans offered by city banks are much more larger in size than those from the "Big Four" ($287.63 millions vs. $70.47 millions). Among all, joint-equity banks issue the smallest size loans ($20.61 millions). Due to Chinese firms' high default risk, banks prefer offer short-term loans and revolving lines of credit. So the average loan maturity for all kinds of commercial banks is less than two years. Among all, loans issued by joint-equity banks have even shorter maturity than those from state-owned banks (1.17 years vs. 1.76 years). The "Big Four" state-owned banks and joint-equity banks require more guarantees than city commercial banks. The percentage of guaranteed loans for the "Big Four", joint-equity banks and city commercial banks are 51%, 49% and 36%, respectively. Out of 261 loan announcements, there are eleven foreign currency loans. But we find no evidence that such type of loan is a good sign to the market.[27]

The firm-specific variables might complement each other, so we test for multicollinearity. The results are presented in Appendix A3. We find that firms with more concentrated ownership (i.e. high CONTROL) use less debts (i.e. low leverage), but have higher earnings per share. The negative relation between ownership concentration and leverage may be due to the fact that controlling shareholders in China prefer issuing new shares than borrowing. They are not willing to pay out

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[26]The state-owned banks issued 139 loans which is the sum of 114 individual loans and 25 syndicate loans with joint-equity banks.

[27]In fact, six out of eleven firms offered foreign currency loans experienced negative abnormal returns during announcement periods.

Table 2
Summary Statistics for Firm-specific Variables

The firm-specific variables are calculated based on the annual reports one year prior to the loan announcement years, except for related transaction which based on the data from the announcement-year. Leverage 1 is defined as total debts to total assets. Leverage 2 is total debts to total equity (which is equal to market price* total shares). Ownership Concentration is the percentage of shares held by the largest shareholder. ANTI-CONTROL is measured in two ways: (1) the shares held by the second to the tenth largest shareholders who are non-affiliated to the largest shareholder divided by the shares held by the largest shareholders and his affiliation in Top 10; (2) the shares of the second largest shareholder to those of the largest shareholder. Beta is obtained from the market model regression in estimation period. Tobin's Q is computed as market price *outstanding shares plus book value of assets minus book value of equity all divided by book value of asset. Market Value is the product of the market price and the number of public traded shares. Related Transaction Ratio is defined as the sum of related transactions to prime operating revenues. The exchange rate is set as 1 US dollar = 8 Chinese Yuan

Variables	Shenzhen Stock Exchange		Shanghai Stock Exchange		All	
	Mean	Median	Mean	Median	Mean	Median
Total Assets ($ million)	255.81	149.23	437.75	169.93	316.68	154.91
Leverage 1	0.55	0.56	0.50	0.48	0.53	0.54
Leverage 2	0.61	0.40	0.52	0.24	0.58	0.39
Earnings per share	0.28	0.30	0.19	0.24	0.25	0.27
Ownership Concentration	46.87	51.18	45.45	47.43	46.39	51.00
ANTI-CONTROL 1	0.49	0.16	0.50	0.21	0.50	0.19
ANTI-CONTROL 2	0.23	0.09	0.28	0.08	0.24	0.09
Beta	1.13	1.16	0.96	1.03	1.07	1.11
Tobin's Q	1.14	1.01	1.23	1.06	1.17	1.02
Market Value ($ million)	120.58	64.79	155.58	88.95	132.25	69.78
Related Transaction Ratio	0.82	0.31	1.17	0.36	0.92	0.31
Number of Firms	111		58		169	
Number of Announcements	172		89		261	

Table 3
Summary Statistics for Loan Announcements

Banks' ownership is divided into six categories. Big four state-owned commercial banks are Bank of China, Industrial and commercial bank of China, Agriculture bank of China and Construction bank of China. Banks' credit rating is taken from Standard and Poor's report on June 22, 2006. The rating value is assigned as: 12 for banks with credit rating equal to AA, 10 for banks rated A, 8 for banks rated BBB, 6 for BB, and 4 for banks rated B. For the banks which are not rated, we set the value equal to 2. Guaranteed loans include all kinds of security protection, such the third party guarantee, right pledge, and mortgage, etc.

Loans	Big Four commercial banks	Joint-equity banks	Joint lenders	City banks	Policy Banks	International syndicate loan	All
Credit Rating of Lenders (S&P's)	BBB-BBB^{+}	B – BBB^{-}	-	-	A^{-}	AA	-
Rating Value	7.95	5.17	-	-	9	12	6.50
Loan Size (million dollars)	70.47	20.61	59.82	287.63	875.33	10250	125.86
Maturity (year)	1.76	1.17	1.25	1.75	5.5	1	1.53
Percentage of Foreign Currency Loans	3.45%	3.96%	3.70%	0	12.5%	100%	4.12%
Percentage of Guaranteed Loans	51%	49%	52%	36%	38%	-	49%
Number of Loan Announcements	114	99	25	14	8	1	261

cash, and the dilution from issuing new shares does not makes them lose their absolute control.[28] We also consider that the high EPS associated to high ownership concentration could be partially explained by "earning management".[29] Table A3 shows that firm size (Log assets) is significantly negatively related to profitability (EPS) and growth opportunity (Tobin's Q). Moreover, higher leverage corresponds to bigger size but lower Tobin's Q, implying that debts play a negative factor for firms' future growth. Firms' system risk (beta) is negatively correlated to their profitability and growth opportunity. Considering price manipulations of blockholders is a common and severe problem on China's stock market, firms which exhibit high market risks might be those shares whose prices are manipulated, and hence less profits and low growth power. Bigger firms can obtain loans with larger sizes and longer terms. And loan size is positively related to the term. Because of the multicollinearity problem between these variables, we use EPS, loan security status and loan maturity as main control variables in the following analysis.

5 Empirical Results

5.1 Univariate Analysis

In Table 4, we calculate cumulative abnormal returns of 251 announcements during the sample period from January, 2001 till December, 2005. The reason that we take away the events which occured in 2006 is due to the policy change on state-owned enterprises beginning from 2005. The "full-flotation reform" or "state-share overhaul reform" began in May 2005 which meant to address the problem of the overhang of the nontradable state and legal person shares by seeking to make all shares fully tradable.[30] Subgroups categorized according to the characteristics of firms, banks and loans. This allows comparison between our results and those from previous research.[31] James (1987) finds a two -day mean abnormal return of 1.93%. Lummer and McConnell (1989) report that the excess return for revised credit agreement is significantly positive. Best and Zhang (1993) obtain a significant averaged abnormal return of 0.32%. Slovin, Johnson and Glascock (1991) obtain significantly positive share price effects for small firms. By contrast, our entire sample has a five-day cumulative abnormal returns of -0.50%, which is significantly negative at the 10%

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[28]Lots of research on financial structure of China's listed companies argue that the pecking order of financing preference is equity financing, short-term debts, and long-term debts.

[29]The previous study, eg. Liu and Lu (2004), indicates that firms with controlling shareholders are more apt to managing earnings.

[30]By the end of Year 2005, 300 public companies had completed the share reform project. But very few of these firms appeared in our 5-year period sample.

[31]For ease of interpretation, unstandardized cumulative abnormal returns are illustrated in Table 4.

level. For the full sample, the percentage of loan announcements which generate negative excess returns is 55.4%. The nonparametric sigh test shows that abnormal returns are negative at the 10% significant level. As we mentioned in the precvious section, some firms issued multiple loan announcements during the sample period, and this may generate biased results when we analyze the relationship between the magnitude of CARs and firm characteristics. After removing firms which have more that 5 announcements, we get a reduced sample with 199 loan announcments. This group of observations provide us an even more significantly negative CARs:−0.62% at the 5% level.

We segment the reduced sample into different subgroups. For firms that do not have large separation between cash flow rights and control rights (i.e. firms with high O/C ratio), the average abnormal return is −0.48%, negative but insignificant at the 10% level. The firms with low O/C ratio however, experienced a loss in their share values of −0.84% at the 5% significance level. The CAR difference between the two subgroups is 0.44% insignificant at the 10% level.

For firms whose controlling shareholders are state-owned enterprises, loan issue announcements lead to a negative abnormal returns of −0.73%, which significant at the 5% level. For firms not controlled by the government, loan announcements generate negative but insignificant abnormal returns of −0.37%. Moreover, the nonparametric sign test shows that at the 10% significance level, government-controlled firms are subject to negative CARs following loan annoucements.

One of the most significant results is obtained in the group of firms who reports related transactions. The average abnormal return for these samples is −0.93%, significantly negative at the 5% level. The abnormal return for firms without related transactions disclosure is −0.09%, insignificantly different from zero.

When firms' other majority shareholders have more voting power to challenge controlling shareholders (i.e. Anti_control is above the median), the average market reaction is negative (−0.35%) but insignificantly at the 10% level. When firms' largest shareholders are barely challenged (i.e. Anti_control is below median), the mean abnormal return is negative (−0.89%) and statistically significant (10% level). The sign test confirms it by giving a negative statistic value at the 1%significance level. The results from group affiliated firm are also consistent to our expectation. The mean CARs is −0.67% at the 10% significance level and the sign test is also significantly negative at the 10% level.

Briefly, investors anticipate expropriation following a loan announcement based on certain firm-specific attributes, such as whether firms are engaged in related trans- actions, the identity of ultimate controlling owners and the structure of ownership concentration.

Besides the proxies for corporate governance, we find that firm size, profitability,

TABLE4: **Cumulative Abnormal Returns for Bank Loan Announcements**

The average cumulated abnormal returns are calculated for a five-day event window, which includes one trading day prior to announcement date, the announcement day and the subsequent three trading days. "O/C ratio" is the cash flow rights to control rights. SOE stands for state-owned enterprises. Firms' beta are obtained form the market model regression during the estimation window. Anti-Control is the amount of shares held by the second to the fifth largest shareholders divided by the amount of shares held by the largest shareholder. Leverage is the ratio of total debts to total assets. The T–statistic (based on Patell 1976) tests the null hypothesis that averaged CAR is not different from zero. The nonparametric sign test requires the expected proportion of positive CAR under the null hypothesis is 0.5. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Variable	Sample size	CAR [-1, +3]	T-statistic	% of negative CARs	Difference between subgroups	Sign Test
Full Sample	251	-0.50*	-1.82	55.4		-1.70*
Reduced sample	199	-0.62**	-1.98	55.3	-	-1.49
Panel A: Measures for Vulnerability to Expropriation (with reduced sample)						
Firm with high O/C ratio	117	-0.48	-0.90	55.6	0.36	-1.20
Firm with low O/C ratio	80	-0.84**	-2.02	53.8		-0.67
Firm controlled by SOE	138	-0.73**	-1.96	57.2	0.36	-1.70*
Firm controlled by non-SOE	61	-0.37	-0.65	50.8		-0.13
Firm disclosing related transaction	126	-0.93**	-2.32	56.3	0.84	-1.43
Firm not disclosing related transaction	73	-0.09	-0.23	53.4		-0.59
Anti-control : Above median	99	-0.35	-1.13	47.4	0.54	-0.50
Anti-control : Below median	100	-0.89*	-1.67	63.0		-2.60***
Firm group affiliated	138	-0.67*	-1.77	57.2	0.15	-1.70
Firm non-group affiliated	61	-0.52	-0.94	50.8		-0.13
Panel B: Firms' other characteristics (N=199)						
Firm size: Log asset						
Above median	97	-0.38	-0.64	58.8	0.47	-1.73*
Below median	102	-0.85**	-2.15	52.0		-0.40
Profitability:						
Above median EPS	98	-0.26	-0.31	56.1	0.71	-1.21
Below median EPS	101	-0.97**	-2.48	54.5		-0.90
Growth opportunity: Tobin's Q						
Above median	100	-0.73*	-1.77	52.0	0.22	-0.40
Below median	99	-0.51	-1.03	58.6		-1.71*
Beta						
Above median	100	-0.30	-0.73	51.0	0.65	0.20
Below median	99	-0.95**	-2.08	59.6		-1.91**
Leverage:						
Above median	98	-0.85**	-2.02	57.1	0.45	-1.41
Below median	101	-0.40	-0.80	53.5		-0.70
Panel C: Loans Characteristics (N=251)						
1. Loans from the Big Four	109	-0.78*	-1.75	56.9		-1.43
2.Loans from joint-equity banks	95	-0.41	-0.82	54.7		-0.92
3. Syndicate loans of 1 & 2	24	-0.64	-0.87	62.5	-	-1.22
4. Loans from policy banks	8	0.25	-0.68	62.5		-0.70
5.Loans from city commercial banks	13	0.66	0.90	38.5		0.83
Guaranteed loans	120	-1.00***	-2.67	59.2		-2.01**
Non-guaranteed loans & unknown	131	-0.05	0.03	51.9	-0.95*	-0.44

growth opportunity, leverage and firm systematic risk also have significant influences on market reaction to loan announcements. In contrast to James (1987), our sample shows that small firms experienced a significant average abnormal return of -0.85%. The mean abnormal return of big firms is only -0.38%, and insignificantly different from zero. We do find firms with low profitability are associated to a negative abnormal return of -0.97%, significant at the 1% level. High profitable firms suffer an insignificnt loss of 0.26% in their market value. Firms with high growth opportunity (i.e. Tobins'Q above median) have a negative mean abnormal return of -0.73%, significant at the 10% level. Firms with low growth opportunity, on the other hand, do not have significant price reaction. Harvey, Lins and Roper (2003) find firms with low growth opportunity correspond to significantly higher positive CARs. Our result is consistent to their finding in a certain way. But we actually find more negative CARs in the groups of firms with low Tobins' Q. A firm with high Tobin'Q represents its high present market value. Issuing debts instead of new shares could make investors believe that large shareholders do not want to dilute their control in the future which suggest that such firms have high potential of expropriation. We also find that shares that are less volatile than the market experience significantly negative abnormal returns of -0.93% at the 5% level.[32]

The most surprising result we get is that firms that obtained guaranteed loans experienced significant loss in their share prices during announcement periods. The mean CARs is -1% and significant at the 1% level.[33] Loans without guarantee send a relative better signal to the market. This may suggest that these borrowers have good reputation and will perform well in the future. On the contrary, secured loans borrowers may bear high default risks such that they could not obtain loans without guarantee. To investors, secured loans are bad signals which indicate high potential of abuse. In contrast to Preece and Mullineaux (1994), the market reaction following domestic syndicate loans is not significantly positive. In fact in our sample, 62.5% of firms that obtained syndicate loans suffered market value decreasing.

We then examine whether bank ownership matters. We find that out of 109 loans issued from the Big Four state-owned banks, 62 borrowing firms suffered loss in share prices. The mean of CARs for these samples is -0.78%, significant at the 10% level. The international bank loan is removed from the following regression because we have only one observation of it. We define five dummies: B_B, B_J, B_S, B_c and B_p, denoting respectively state-owned banks, joint-equity banks, syndicated loans provided by both state-owned banks and joint-equity banks, city commercial

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[32] According to the correlation test, beta is positively correlated to Tobin'sQ.

[33] Here, guarantee means all types of security, such as the third party guarantee, right pledge and mortgage, etc.

banks and policy banks. Below is the result of OLS estimation.

$$CAR = \underset{(-1.38)}{-8.798} + \underset{(1.68)}{1.019} B_J - \underset{(-0.15)}{0.148}B_S + \underset{(1.78)}{2.167}B_c - \underset{(-0.66)}{1.452}B_p \qquad (5)$$

$$+ \underset{(1.09)}{0.335}LogAsset + \underset{(2.88)}{1.581}EPS + \underset{(1.60)}{0.285}Maturity$$

$$Ajusted \ R\text{-}squared = 0.039, \qquad N = 213$$

The numbers in parentheses are t-ratios. We find that loans provided by joint-equity banks and city commercial banks generate significantly higher cumulative abnormal returns than the "Big Four" state-owned firms for the same levels of related transaction ratio, profitability, and loan maturity. Loans provided by joint-equity banks generate 1.019% higher abnormal returns than those from state-owned banks, significant at the 10% level. The abnormal return associated with city commercial banks is 2.167% higher than those associated with state-owned banks. Syndicate loans and loans from policy banks generate lower CARs than loans from the "Big Four", but the difference is insignificant. The results suggest that Investors do anticipate that bank's ownership affects its ability to supervising insiders' misbehaving.

5.2 Multivariate Analysis

We now employ cross-sectional regression for a further examination on how both firm governance and bank monitoring affect market expectations of borrowing firms' values. The results are summarized in Table 5.

In full sample regressions, Model (1) shows that ANTI-CONTROL plays a positive role in the firm reevaluation process following loan announcements. An increase of 1% in the proportion of shares held by non-controlling large shareholders contributes to 1.40% higher excess returns for borrowing firms. This supports our hypotheses that: in investors' point of view, the more voting rights held by non-controlling large shareholders, the less likely that debt will be abused. Compared to those without related transaction reports, companies disclosing related transactions have 2.62% lower abnormal returns. High profitable firms gain 1.75% higher CARs than those with lower EPS. O/C ratio and group affiliation as two other proxies for the quality of corporate governance have no significant influence on the magnitude of CARs. Performaing loans ratio as a measure of bank's monitoring ability does not affect significantly CARs in the full sample regression, either. Loan's maturity appears to be significantly influential. The coefficient 0.69 means that if a firm can get a loan with the term one year longer, its announcement period CARs will increase by 0.69%.

Model (2) probes the impacts of lenders' supervision ability (PL), borrowers' related transaction activities, and their interaction. We again find that a firm that

discloses related transactions suffers 3.91% (significant at the 1% level) larger loss in market value from its loan announcement than a firm without such reports. However, a well-performing lender can counteract this negative effect. The coefficient 0.54 of the interaction term indicates that firms reporting related transactions will experience only 2.29% (calculated as $3.91\% - 0.54\% * 30\%$) larger decrease in stock price than firms without related transactions if it borrows from a bank whose performing loan ratio equals to 50% instead from a bank with PL ratio equal to 80%. Model (3) examines whether O/C ratio can affect investors reaction to loan announces as demonstrated by the previous literature. The coefficient -1.38 indicates that the separation between cash flow rights and voting rights is not a powerful explanatory variable for significantly negative CARs for the borrowing firms. We also notice that security status of loans has no more significant effect on the magnitudes of CARs in cross-sectional regressions. This may be due to the correlations between it and other variables, such group affiliation, firm size and loan term.

Model (4), (5) and (6) deal with firms disclosing related transactions. We found much larger CARs than those in the full sample regressions. Moreover, bank's monitoring ability becomes more significant. The coefficient of PL ratio is 0.44 at the 5% significance level. The results also show that comparing to other types of banks, borrowing from state-owned banks leads to -1.63% lower abnormal returns to the firms. In contrast, borrowing from joint-equity banks induce 1.26% higher abnormal returns than borrowing from other types of banks. The differences are both significant.

In Model (4), (5) and (6), the coefficients of related transactions are all negative but insignificant at the 10% level. This might be because that we did not segment related transactions according to their types. Instead of tunneling, some kinds of related transactions are used to propping the listed firms.[34]

EPS (earnings per share) is significantly positively related to abnormal returns, indicating investors anticipate that high profitable firms can wisely use debts to create value. Loan term is also positively correlated to market reaction to loan announcements. In contrast to security status, a long term loan suggests a good relationship between the lender and the borrower, and therefore the lower probability of expropriation.

6 Robustness

We now test whether our results can stand taking into account several factors as follows. First, we check the possibility of information leakage before announcement window. The average cumulative abnormal returns are calculated from the 20th day

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[34]Jian & Wong (2005) show a positive relation between propping and tunneling.

Table 5
Regression Tests on Abnormal Returns for Loan Announcements

Regressions are estimated with five-day abnormal returns as dependent variables for 251 uncontaminated bank loan announcements during January, 2001 to June, 2006. Significance levels are based on two-tail tests, and T-Statistics are given in parentheses. *, **, and *** stand for the significant at 10%, 5%, and 1% level, respectively

Variable	Full Sample			Firms disclosing related transactions		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Intercept	-5.23	-5.44	-1.96	-16.02*	-14.81*	-12.65
	(-0.44)	(-0.85)	(-0.15)	(-1.93)	(-1.75)	(-1.51)
Disclosing Related Transactions (DRT[1])	-2.62***	-3.91***	-2.60**			
	(-3.05)	(2.97)	(-2.51)			
ANTI-CONTROL[2]	1.40*	0.36		-0.17	0.09	-0.05
	(1.80)	(0.70)		(-0.27)	(0.14)	(-0.08)
State-owned bank[3]						-1.63**
						(-2.24)
Joint-equity bank[4]				1.26*		
				(1.67)		
PL ratio	0.19	-0.10	0.15		0.44**	
	(0.93)	(-0.47)	(0.66)		(2.43)	
PL ratio*Disclosing Related Transaction		0.54**				
		(2.01)				
EPS	1.75**	1.81***	1.67*	1.96***	1.89***	1.89***
	(2.25)	(3.13)	(1.75)	(2.88)	(2.58)	(2.81)
Firm Size (Log asset)	0.23	0.28	0.05	0.68*	0.55	0.58
	(0.40)	(-0.91)	(0.08)	(1.71)	(1.34)	(1.44)
Related Transaction Ratio[5]				-0.13	-0.14	-0.16
				(-0.86)	(-0.29)	(-1.07)
Group affiliation[6]	-0.81	-0.33	-1.17	-1.15	-0.86	-1.10
	(-0.87)	(-0.53)	(-1.10)	(-1.46)	(-1.03)	(-1.40)
O/C Ratio[7]			1.38			
			(0.66)			
Security Status[8]	-1.47		-1.59			
	(-1.14)		(-1.09)			
Maturity (year)	0.69**	0.24	0.74**	0.44*	0.45*	0.47*
	(2.34)	(1.42)	(2.29)	(1.76)	(1.79)	(1.90)
Number of Announcements	113	193	95	129	117	129
Adjusted R^2	0.1017	0.0938	0.0599	0.0662	0.0736	0.0829
p-value	0.0129	0.0012	0.0988	0.0312	0.0305	0.0138

[1] Dummy variable which equals one when the borrowing firm reports related transaction.

[2] The ratio of the shares held by the second to the fifth largest shareholders to the shares owned by the largest shareholder.

[3] Dummy variable which equals one when the lender is state-owned bank.

[4] Dummy variable which equals one when the lender is joint-equity bank.

[5] The sum of related transactions to prime operating revenue from the announcement year.

[6] Dummy variable which equals to one if the firm is controlled by a corporation group.

[7] Cash flow rights divided by voting rights.

[8] Dummy variable which equals unity when the loan is guaranteed.

before the announcement date until the 10th day after the event, including 31 trading days. Figure A1 in Appendix presents the results. We observe an extraordinary increase in CARs from the day $t = -6$.[35] But from the day $t = -3$, CARs drop enormously. The mean of CARs becomes negative from the day $t = -1$, and this lasts several days. It rebounds above zero five days after the announcement date. We could not explain the unusual volatility during the period $t \in [-6, -3]$, but there is no evidence of information leaking before the announcements.

Debt issue is insiders' (including both borrowers and lenders) rational choice which is based on their information that is not fully known to the market. If investors can make an inference about such latent information given publicly available information, then the price reaction is conditional on debt announcements and market inference on the decision process. No controlling for information observable by investors prior to a probable announcement, as the standard event study, can yield biased estimates. Acharya (1988, 1993) argues that the conditional event study is the only correct way to test for a discrete signal, because it estimates the announcement period return conditional on the insiders' decision to signal. Prabhala (1997) points out that "the traditional event study technique remains a well-specified test for detecting the existence of information effects" and coefficients obtained via traditional linear regression are proportional to the true conditional model parameters" under weak conditions. Moreover, conditional methods can add value relative to traditional procedure only if nonevent data (here, for example, indicating that firms were partially anticipated to borrow but debt announcements do not happen) are available. Finding a group of nonevent firms may not be easy in our case. First, external financing is a high-frequency event. Firms which do not borrow from banks get financed via other ways, such as right or bond issuing, intra-group lending, etc. If such financing activities occur during the sample period, this sample of nonevent firms is no more a proper counterpart. Second, the timing of this nonevent and the announcement effects at the time market learn of the nonevent are quite difficult to determine. In addition, loan application is the voluntary activity of firms, but debt announcements are signals revealing banks' decision, too. Thus, it is more difficult for the market to anticipate the probability of event, which may make the endogeneity problem less severe. Even though there is potential bias in the parameter estimates during cross-section regression, the coefficients associated to governance attributes are underestimated. We then should expect more significant effects of these explanatory variables.[36]

In order to explore the effect of financial system reform in China, we calculate the yearly average cumulative abnormal returns as well as the percentage of negative

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[35]Recall that t=0 is the announcement date.

[36]Appendix provides a model explaining the upward bias of these parameter estimates.

observations from Year 2001 to Year 2006. Figure 3 in Appendix presents the results. The average abnormal returns are negative in the first four years, namely 2001-2004. After Year 2005, we observe positive, but insignificantly, abnormal returns. Year 2006 gives us a even bigger positive abnormal returns. Nevertheless, there are only 8 announcements for Year 2006. So, to pursue robust conclusion about the improvement, we need more observations. The fact that in Year 2003 and 2004 we observe market's worst reaction to loan announcements might be connected with China's A-share's long bearish market started since the middle of 2001.[37]

In previous literature, credit ratings are usually used to measure banks' monitoring ability. As we discussed earlier, this is not the case in China's context. To test this argument, we run the following OLS regression.

$$ CAR = \underset{(-3.9)}{-0.32Rating} \underset{(-0.72)}{-0.11073RTR} + \underset{(2.46)}{1.61213EPS} + \underset{(1.80)}{0.42813Maturity} \qquad (6) $$

$$ R\text{-}Square = 0.1375, \quad N = 135 $$

Holding the levels of related transaction ratio (RTR), earnings per share (EPS), and loan term ($Maturity$), the result shows that Chinese bank credit rating is significantly negative related to abnormal returns, indicating it is not an appropriate proxy for monitoring ability.

Auditor, as one of external monitors, may have an impact on the market reaction to loan announcements. However, out of 12 firms audited by the "Big Four" accounting firms[38], only three had positive abnormal returns, and one of them obtained the loan from the HongKong Branch of Agriculture Bank of China. In other word, we have no evidence that investors believe that reputable external auditors can prevent expropriation effectively in China.

Due to the multilinearity problems among firms' characteristics, we only use earnings per share and log asset as firm-specific control variable in the previous cross-section regressions. Consider that leverage and Tobins'Q may also affect investors' reassessment on firm value after debt announcements, we add these two variables to the regressions. Instead using total assets as a measure of firm size, we use firms' market value (price * the number of publicly tradable shares). The results show that neither market value nor leverage is significantly correlated to abnormal returns for loan announcements. We also consider the effects of industry and geography, but find no evidence that investors' reevaluation on firm value following loan announcements

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[37]The bear market was triggered by a few false moves aiming to addressing the problem of the overhang of the nontradable state and legal person shares by seeking to make all shares fully tradable. The situation has been turned since May 2005 when Chinese government began to implement the "full-flotation reform" or "state-share overhaul reform" in with a few pilot programs. By the end of that year, 300 public companies had completed the share reform project.

[38]They are Deloitte, Ernst & Young, PriceWaterhouseCoopers and KPMG.

is significantly related to these factors.

7 Conclusion

Debt has long been considered as a disciplinary vehicle since it can alleviate asymmetric information between managers and outside investors. But when the main agency problem appears between controlling shareholders and minority shareholders, debt can play an opposite role. Investors anticipate that controlling shareholders use debt to financing tunneling or expropriation under certain environment. We use a conventional event study method to show that abnormal returns following loan announcements can be negative in economies where borrowing firms' governance quality is poor and banks' monitoring incentive and ability are weak.

Several proxies are used to measure a firm's vulnerability to expropriation, including related transactions ratio, group affiliation, ultimate control, non controlling large shareholders' challenge power, etc. We find that except for ownership-control separation, all other proxies are significantly negatively correlated with the market reaction to loan announcements. The more vulnerable to expropriation a firm is, the more negative abnormal returns it obtains following a loan announcement. In contrast to previous literature which argues that controlling shareholders tunnel mainly through complex ownership structures like pyramids and cross-shareholdings, our results suggest that expropriation can occur in firms with high concentrated ownership but without the separation between ownership and control.

Our results also suggest that the improvement of external monitoring ability can enhance investors' confidence on firms' future performance. Banks' monitoring incentive and ability are closely related to their ownership. In China, state-owned commercial banks are the weakest supervisors compared to non state-owned banks, such as joint-equity banks, city commercial banks and foreign banks. Loans provided by state banks are bad signals to outside investors, and may decrease the market values of borrowing firms. However, the ongoing reforms in China's financial system have improved banks' efficiency. Moreover, we do not find evidence that the reputation of external auditors has positive effect on market reaction to loan announcements.

Briefly, investors can anticipate when debt may probably be used as a device of expropriation based on publicly available information. Only firms that are less vulnerable to tunneling or effectively monitored can benefit from debt offering. Continental European countries and French civil law countries are believed to have higher tunneling potential campared to the US and UK, examining how the capital markets in these economies respond to private financing announcements is worth of futher interests.

8 Appendix

Several Cases of Tunneling.

1. The TOP Group Co.Ltd., the NO. 1 on the list of "Top 20 tunneling events in Year 2005" reported by Shanghai National Accounting Institute, consists of eight corporations and three listed companies, One of its listed companies - "Sichuan Topsoft Investment Co. Ltd." (TOPsoft), for instance, transferred millions of dollars to its controlling shareholder without real transactions. As a result, by the middle of Year 2004, TOPsoft's net asset was only 41.75 million dollars but with the total arrearage (both to banks and to other parties) over 110.63 million dollars, which is 2.65 times of net assets.

2. Shanghai Donghai Co.Ltd. (ShDH), a listed company in Shanghai Stock Exchange convinced the banks and obtained a huge amount of loans, and then relended to its large shareholders and several related companies. As a result, the second largest shareholder, AIC Donghai Corporation, owed SHDH 65.1 million dollars, and one of its subsidiary , Wanlong Real Estate Co. Ltd., even owed SHDH around 87.1 million dollars. The related lending, more than152 million dollars, was written off through a complex asset swap at a unfair price, becoming a nightmare for SHDH.

Table A1
The State and Non-state Banks in China

Types of Banks	Total Assets	Total Deposits	Outstanding Loans	Profit	NPL rate (%)
2002					
4 State-owned Banks	14,450.0	11,840.0	8,460.0	71.0	26.1
Other Commercial Banks	4,160.0	3,390.0	2,290.0	--	--
1) Joint Equity	2,990.0	--	--	--	9.5
2) City Commercial Banks	1,170.0	--	--	--	17.7
Foreign Banks	324.2	--	154.0	15.2	--
Urban Credit Cooperatives	119.0	101.0	664.0	--	--
Rural Credit Cooperatives	--	1,987.0	1,393.0	--	--
2001					
4 State-owned Banks	13,000.0	10,770.0	7,400.0	23.0	25.37
Other Commercial Banks	3,259.0	2,530.7	1,649.8	12.9	--
1) Joint Equity	2,386.0	1,849.0	1,224.0	10.5	12.94
2) City Commercial Banks	873.0	681.7	425.8	2.4	--
Foreign Banks	373.4	--	153.2	1.7	--
Urban Credit Cooperatives	128.7	107.1	72.5	2.6	--
Rural Credit Cooperatives	--	1,729.8	1,197.0	--	--

Source: Almanac of China's Finance and Banking 2000-2003.

Banks' Credit Rating and Rating Values.

We classify the banks into six levels according to their rating values. The numbers 12, 10, 8, 6, 4, and 2 are correspondingly assigned to banks with ratings AA, A, BBB, BB, and B and those without ratings. Precisely, city commercial banks are not rated, which hava value 2. The "Big Four" state-owned commercial banks are all belonged to level BBB, hence they are given value 8. Some joint-equity rated BB have value 6, and others rated B have value 4. Policy bank -China Development Bank has value 10. 12 is attributed to international syndicate banks.

Table A2.
Standard & Poor's Bank Credit Rating

June 22, 2006

Entity	Local currency	Foreign Currency	Type
Agriculture Bank of China	BBBpi/--/--		ICR
Bank of China		BBB+Stable/A-2	ICR
Bank of Communications		BBB-Stable/--	ICR
China Development Bank	A-/Positive/--	A-/Positive/A-1	BFSR
China Everbright Bank Co.Ltd.	Bpi/--/--		ICR
China Merchants Bank CoLtd.	BBpi/--/--		ICR
China Minsheng Banking Corp.Ltd.	Bpi/--/--		ICR
Guangdong Deveopment Bank Co.Ltd.	Bpi/--/--		ICR
Hua Xia Bank Co.Ltd.	Bpi/--/--		ICR
Industrial and Commercial Bank of China Co.Ltd.		BBB+Stable/A-2	ICR
Shanghai Pudong Development Bank Co.Ltd	Bpi/--/--		ICR
Shenzhen Development Bank Co.Ltd	BBpi/--/--		ICR
China Construction Bank		BBB+Stable/A-2	ICR

ICR=Issuer Credit Ratings
 FSR=Financial Strength Ratings

	Anticontrol (1) 2nd vs. 1st	Anticontrol(2) Top10 vs.CS	Control	Tobin'Q	Leverage	EPS	beta	Log asset	Amount	Maturity
Related transaction ratio	0.00649 0.9359	-0.02957 0.7141	-0.06520 0.4187	-0.01825 0.8211	0.05996 0.4571	0.02950 0.7147	0.04328 0.5916	0.10834 0.1782	0.03088 0.7067	-0.08416 0.3318
Anti_control (1) 2nd vs. 1st		0.66791 <.0001	-0.69841 <.0001	0.01207 0.8444	0.07047 0.2512	-0.10681 0.0827	-0.05645 0.3582	-0.00511 0.9342	-0.02555 0.6847	-0.00621 0.9254
Anti_control (2) Top10 vs.CS			-0.64785 <.0001	0.00310 0.9598	0.09325 0.1285	-0.09175 0.1363	0.00320 0.9585	-0.06866 0.2672	-0.07282 0.2466	-0.05312 0.4227
Control				0.02005 0.7452	-0.19786 0.0012	0.23089 0.0001	0.03857 0.5318	-0.05287 0.3932	-0.05062 0.4227	-0.03144 0.6360
Tobin'Q					-0.23058 0.0001	0.21060 0.0006	-0.20335 0.0008	-0.60556 <.0001	-0.04101 0.5144	-0.07176 0.2785
Leverage						-0.06296 0.3072	0.00418 0.9458	0.18133 0.0032	0.05462 0.3851	0.01960 0.7675
EPS							-0.11133 0.0704	-0.12733 0.0391	-0.02880 0.6484	-0.04647 0.4841
Beta								-0.03171 0.6087	-0.04751 0.4500	0.08398 0.2044
Log asset									0.40057 <.0001	0.13893 0.0365
Amount										0.16651 0.0130

Selectivity Bias of the Standard Event Study (based on Prabahala 1997)

The standard event study method is a two-step procedure as we showed in Section 4. The first step is to estimate the parameters of benchmark model using realized stock return data over a suitable period unrelated to the loan announcement.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \qquad where \ \ t = -250, ..., -21$$

Using these estimated parameters, we calculate announcement period abnormal returns

$$AR_{it} = R_{it} - \widehat{\alpha}_i - \widehat{\beta}_i R_{mt}, \qquad where \ \ t = -1, ..., +3$$

In the second step, the following cross-sectional regression is performed:

$$E\left(CAR_{i\tau} \mid \text{Loan announcement}\right) = \beta_0 + \beta_1 x_{i1\tau-1} + \cdots + \beta_k x_{ik\tau-1} + \mu_{i\tau} \qquad (7)$$

where $(x_{i1\tau-1}, \cdots, x_{ik\tau-1})$ is a k-vector of attributes of firm i in the period just preceding the event period τ.

Now assume that before time τ, the market knows that an event-related information ν_i has arrived at firm i. The market forms an expectation about this information

based on a set of firm-specific variables - x_{ij} .

$$E_{\tau-1}(\nu_i) = \sum_{j=1}^{n} \theta_j x_{ij} \tag{8}$$

x_{ij}, for instance, could be firms' industry, size, leverage and the amount of liquid assets. Then the firm's private information is $\psi_i = \nu_i - E_{\tau-1}(\nu_i)$. For the moment, we only consider the firm's decision on applying a loan. The firm only has two choice: either applying a loan or not ($C \in \{A, NA\}$) depending on its information ν_i.

$$
\begin{align}
C &= A \quad \text{if } \nu_i < 0 \iff \psi_i < -E_{\tau-1}(\nu_i) \tag{9} \\
C &= NA \quad \text{if } \nu_i > 0 \iff \psi_i > -E_{\tau-1}(\nu_i) \tag{10}
\end{align}
$$

In other words, the firm will borrow when its internal finance is not large enough. So, firm's choice between A and NA partially reveals its private information ψ_i. The market revised expectation $E(\psi_i \mid C)$ constitutes the unexpected information on the event date. Under assumption of risk neutrality and linearity ($E(AR_i \mid \psi_i) = \pi \psi_i$),

$$
\begin{align}
E(CAR_{i\tau} \mid A) &= \pi E(\psi_i \mid A) = \pi E(\psi_i \mid \psi_i < -E_{\tau-1}(\nu_i)) \tag{11} \\
E(CAR_{i\tau} \mid NA) &= \pi E(\psi_i \mid NA) = \pi E(\psi_i \mid \psi_i > -E_{\tau-1}(\nu_i)) \tag{12}
\end{align}
$$

If the loan announcement has an information effect, π should be significant. Intuitively, the smaller the private information of the firm, the bigger the probability that a loan announcement will occur, and the smaller the abnormal return will be. So we have $1 > \pi > 0$. If $\psi_i \backsim N(0, \sigma^2)$, then the above models can be rewritten as

$$E(CAR_{i\tau} \mid A) = \pi\sigma \frac{\phi(\theta x_i/\sigma)}{\Phi(\theta x_i/\sigma)} \tag{13}$$

$$E(CAR_{i\tau} \mid NA) = \pi\sigma \frac{-\phi(\theta x_i/\sigma)}{1 - \Phi(\theta x_i/\sigma)} \tag{14}$$

Apparently, Equation (14) is not considered in the standard method. The true slope of Equation (13) is

$$\beta_j = -\theta_j \pi \frac{\lambda_E(\theta x/\sigma)}{\lambda_E(\theta x/\sigma) + \theta x/\sigma} \tag{15}$$

where $\lambda_E = \frac{\phi(\theta x_i/\sigma)}{\Phi(\theta x_i/\sigma)}$,. Assume that regressors x are multivariate normal distributed, then we have $|\beta_j| < |\theta_j|$. Hence, the each linear regression coefficient β_j is biased towards zero., relative to θ_j. Statistically, the t-values associated to the traditional cross-sectional procedure can be interpreted as conservative lower bounds on the true significance level of the parameters.

Similar analysis can be applied when we consider bank-specific variables, such as ownership, PL ratios, into Equation (8). These estimators are also biased toward zero with traditional method.

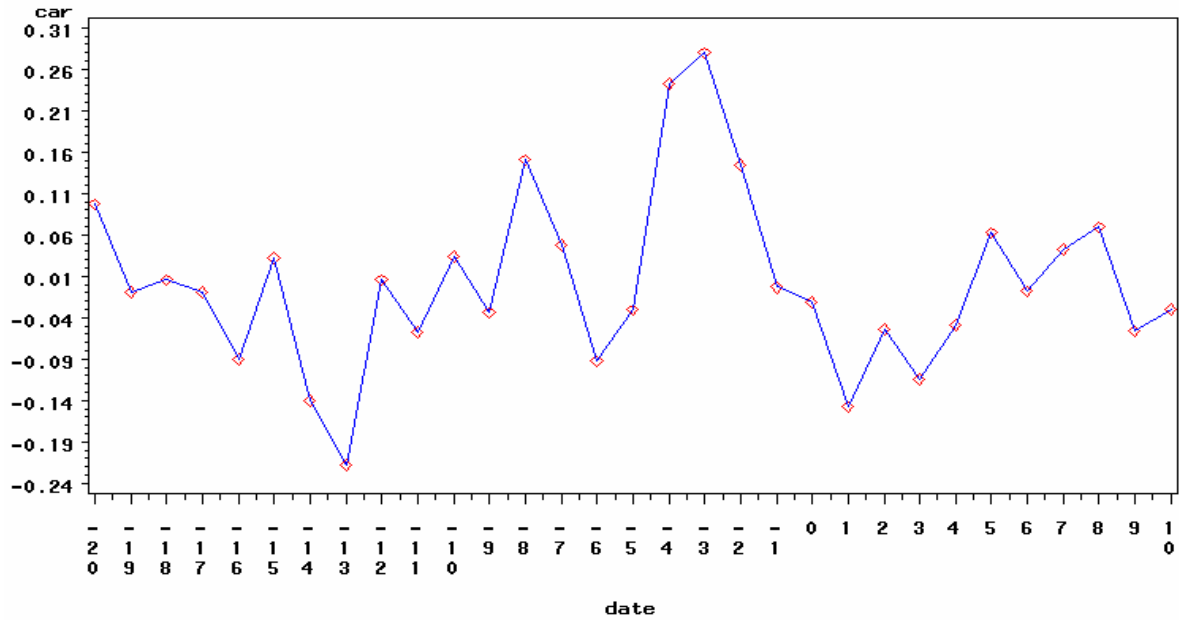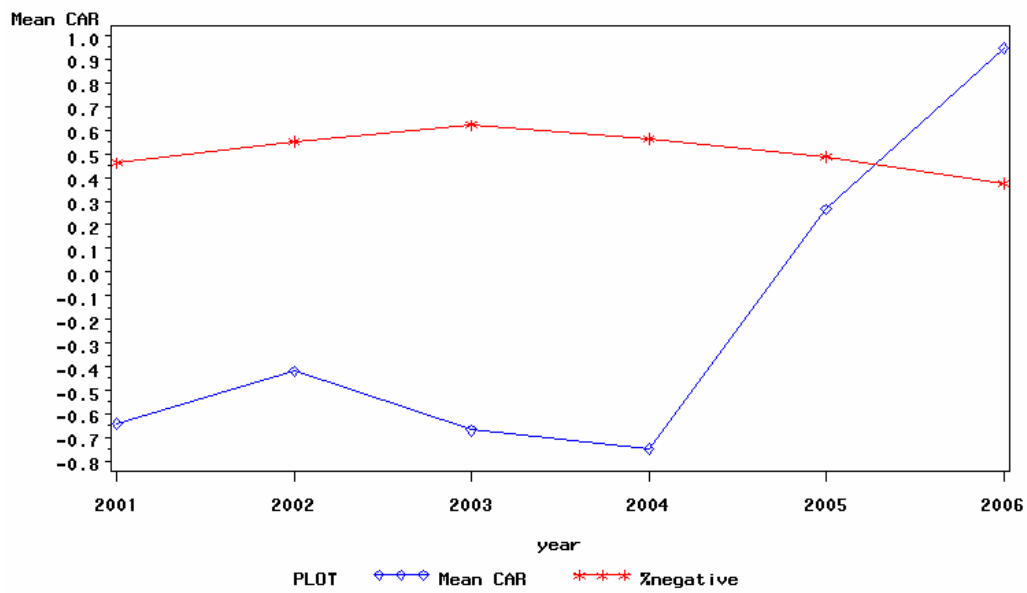Fifure A1: Average Cumulative Abnormal Returns per day in the window[−20, +10] of 261 observations

Figure A2: Year−averaged CARs from 2001 to 2006

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