

When loans are Bad News:

Market reactions to loan announcements under poor governance

Weihua HUANG* Shan ZHAO†

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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/controlling shareholders 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 are poorly governed and borrow from banks with weak monitoring ability. The results also indicate that non state-run banks have superior monitoring ability compared to state-owned banks, We find limited evidence that enterprise reforms in China have been enhancing investor confidence.

JEL Classification: G14, G21, G32

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

*Corresponding author. Finance Group, Maastricht University. Phone: +31 433884844. Fax: +31 433884875. Email: w.huang@Finance.unimaas.nl.

†GREMAQ, Université de Toulouse 1- Sciences Sociales. Address: Manufacture des Tabacs, 21, Allée de Brienne, 31000, Toulouse, France. Email: zhsh333@yahoo.com.

1 Introduction

Extensive empirical research show that debt financing, especially private placement, is a good signal to the market. Mikkelson and Partch (1986) first discover that bank credit line announcements generate positive borrower returns. Subsequent studies have related the value-enhancing effects of debt with lender type (e.g., James 1987), lender credit quality (e.g., Billet et al. 1995; Boscaljon et al. 2005), debt type (e.g., Lummer et al. 1989; Harvey et al. 2004), information asymmetry of borrowing firms (Slovin et al. 1992, Best et al. 1993) and so on.

Financial intermediation theory supports their findings by arguing that banks have access to borrowers' private information through initial screening and *ex post* monitoring (e.g. Campbell and Kracaw 1980; Diamond 1984). Corporate finance literature, such as Grossman and Hart (1982), Jensen (1986), and Dewatripont and Tirole (1994), suggests that debt can alleviate the agency problem between managers and shareholders. The underlying mechanisms include the threat of default and bankruptcy, reputation concern, and creditor monitoring.

Nevertheless, in spite of 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 shareholders¹. Adelphia, founded by John Rigas, was once the sixth largest cable TV company of the United States. It was one of the most heavily indebted companies in that industry. In 1996, Adelphia's debt was 11 times its market capitalization. Adelphia's meltdown is not simply a result of its rapid expansion through a series of highly leveraged acquisitions. The shareholders mainly suffered from the controlling shareholders' massive scale looting. On March 27, 2002, Adelphia disclosed that the Rigas family had borrowed over two billion dollars through various family-owned partnerships off its balance sheet. The shareholders also paid for the family's fancy apartment, \$700,000 membership fee at the golf club, \$3 million movie production cost, etc.

Expropriation of minority shareholders through debt is even easier in countries where regulations and legal enforcement are weak, such as many emerging economies. At the beginning of the year 2006, Shanghai National Accounting Institute in China published a list of "Top 20 Tunnelling² Events in Year 2005". All the firms on that

¹La 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.

²Johnson 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.

list were extremely levered 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 transactions³ 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).⁴

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 would be expropriated based on publicly available information, such as corporate statements and analysts' reports.

In this paper, we examine the effect of corporate governance as well as bank's monitoring ability on market reactions to debt announcements.⁵ The mechanism behind can be understood as follows. With inefficient inside and outside supervision, large shareholders/managers 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 fundamental value of a firm as well as the integrity of its controlling shareholder 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 devalue 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 (this paper will focus on loan announcements). We then explore the relationship between the magnitude of abnormal returns with corporate governance attributes and lender's monitoring ability.⁶

Two conditions may induce devaluation of borrowing firms following debt announcements: poor governance and weak monitoring. For those reasons, China's

³A 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.

⁴Some examples of tunneling are illustrated in Appendix.

⁵Specifically, 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.

⁶If rational investors can anticipate the probability of occurrence 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 estimates 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.

financial markets provide a fit environment for this study. Firstly, as an emerging market economy, both internal and external governance mechanism in China are weak. Even though China's 16-year old stock market is growing with an incredible speed⁷, investors are suffering from many serious problems (such as inefficiency, lacking fiduciary duty, fraud, and a mountain of non-performing loans), 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. Secondly, 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 therefore 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 issuing 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 results also indicate that investors take guaranteed loan issues as bad news, suggesting that secured loans are more likely to be expropriated.

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

⁷According 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.

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.⁸ Lemmon and Lins (2003) study the effect of ownership structure on value during the region’s financial crisis. They find that crisis period stock returns of firms in which managers have high levels of control rights but separated 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 without such separation⁹. 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, this paper compensates Harvey et al. (2004) by using domestic loan issue data to study the interaction between internal governance and external monitoring.

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.

⁸In addition, Lummer and McConnell (1989) support the hypothesis that bank loans convey information, but they find new bank loans do not communicate information. Shleifer and Vishny (1997) suggest that bankers actively investigate corporate quality and evaluate the investment risk during the renewal of bank loans.

⁹Fan 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.¹⁰ 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 other major shareholders join each other, they can still accumulate a considerable number of votes to challenge the largest shareholder.

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

¹⁰Data are collected from *China Infobank* database and Liu (2006).

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 et al. (2002), the Chinese government owned 99.45% of the largest commercial banks in 1995, which is the highest number among 92 countries.

¹¹H-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.

¹²Self-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.

¹³Source: F.Allen, J.Qian and M.Qian (2005), "China's financial systems: past, present and future".

Moreover, the four large state-owned banks¹⁴, 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.

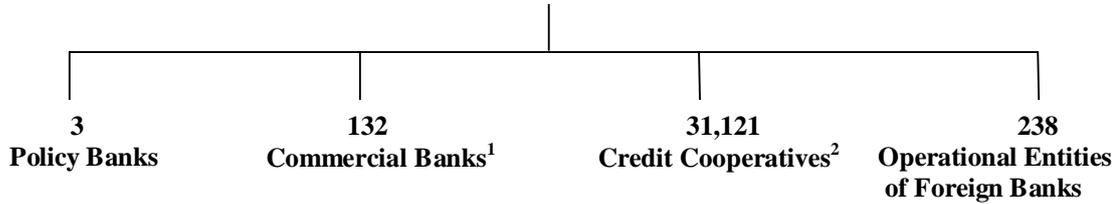
To reduce NPLs, the ongoing reforms in the financial system have been focused on two aspects. (1) Pushing forward the fast growth of non state-owned banks and intermediaries. From Figure 1, we can see that among 132 commercial banks, there are four wholly state-owned banks, 13 joint-equity banks and 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.

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

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

Central Bank
(The People's Bank of China)



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

¹⁶Such 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 creates 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 $40\% \times \text{the premium}$. 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 devalue 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

$$CAR_i = \alpha + \beta VTE_i + \gamma BM_i + \lambda VTE_i BM_i + \mu C_i + \epsilon_i \quad (1)$$

where VTE_i is a vector of firm-specific characteristics which stands for firm i 's vulnerability to expropriation, BM_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, *Wind* financial 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 501 loan announcements from January, 2001 to December, 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 427 clean samples from 199 listed non-financial firms. Some financial and accounting data of the firms are provided by *CCER Sinofin* database. The group affiliation information and related transaction data are manually collected from their corporate annual reports. Some stock transaction data are drawn from *Datastream*.

4.2 Proxy Selection

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

¹⁷We also consider to use banks' credit rating as a measure of monitoring 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 to 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 corporate annual reports of the year prior to 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

¹⁸Values 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.

¹⁹Not 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 transactions 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 affiliated 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 ten 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 flow rights to the control rights of the ultimate controlling owner. For example, 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 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

²⁰We also consider other anti-control measures, such as (1) the second largest shareholder's cash flow rights to the largest shareholder's cash flow right; and (2) shares held by the second largest shareholder to the fifth largest shareholder divided by the shares held by the largest shareholder. Both measures give us similar results.

prior until 21 days prior to the event date $t = 0$.

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

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.

$$\widehat{AR}_{it} = R_{it} - \widehat{\alpha}_i - \widehat{\beta}_i R_{mt}, \quad \text{where } t = -1, \dots, +3 \quad (3)$$

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

$$\widehat{CAR}_i = \sum_{t=-1}^{+3} \widehat{AR}_{it}$$

We construct a test of H_0 for security i using the standardized cumulative abnormal return

$$SCAR_i = \frac{\widehat{CAR}_i}{\widehat{\sigma}_i}, \quad (4)$$

where $\widehat{\sigma}_i^2$ is the variance of the abnormal return for the market model. Assuming cross-sectional independence in abnormal returns, the average standard abnormal returns over N security will be normally distributed in large samples. Using

$$J = \sqrt{\frac{N(L-4)}{L-2}} SCAR \stackrel{a}{\sim} \mathbb{N}(0, 1), \quad (5)$$

we can test the null hypothesis.²² The large estimation window $L = 230$ makes the distribution of \widehat{SCAR}_i well approximated by the standard normal. In this case, the above equation can be simplified as $J = \sqrt{N} SCAR$.²³

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

²¹In 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 $\tau \in [-20, +10]$.

²²See Campbell et al. (1997).

²³There is a second method to draw overall inferences. We aggregate the observations using the sample cumulative abnormal return for each stock i ,

$$\overline{CAR} = \frac{1}{N} \sum_{i=1}^N \widehat{CAR}_i.$$

We consider that the event windows of the N securities do not overlap, which is a proper assumption in our case. To test the null hypothesis the expectation of the abnormal returns is

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.²⁴ 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 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 53%. Compared to the evidence from developed and some other developing countries, our sample firms are highly leveraged.²⁵ The largest shareholders own on average more than 45% of total shares, presenting a very high concentrated ownership structure. Shares held by the second largest shareholder are only 13.56% (=56% * 26%) of total shares, which is only about a quarter (26%) 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 28% (=56% * 50%), just one half (50%) of the sum of shares held by the controlling shareholders. 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 0.89, which means the average amount of related party transactions is almost as same as the amount of prime operating revenues. The highly concentrated

zero, we use

$$J = \frac{\overline{CAR}}{[\widehat{\sigma}^2]^{1/2}} \stackrel{a}{\sim} \mathbb{N}(0, 1),$$

where $\widehat{\sigma}^2$ is the variance average of the abnormal return from the estimation period. We will show that the two methods give us similar results.

²⁴A statement mostly used in an announcement is "Recently, our company signed a loan contract with X Bank."

²⁵Rajan 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.

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 39.73% of total assets.²⁶ Thus, we use total assets as the proper measure of firm size.

Compared to the firms listed on Shanghai Stock Exchange, Shenzhen Exchange listed firms have on average smaller size (\$253.43 millions vs. \$393.50 millions), higher leverage (55% vs.50%) and lower earnings per share (0.15 vs.0.18). However, firms on both exchanges exhibit similar ownership attributes. The largest shareholders own on average 45.14% (respectively, 45.21%) of total shares in Shenzhen Exchange (respectively, Shanghai Exchange). The average ANTI-CONTROL1 is 55% for Shenzhen and 57% for Shanghai. Firms on Shanghai Stock Exchange engage in more related party transactions with a related transaction ratio of 1.05 vs. 0.71. Note that we observe a big difference between the number of firms and the number of announcements (199 vs.427) because some sample firms issued more often loan announcements during the six years. The impact of same firms appearing repeatedly in our sample is analyzed in the next Section.

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 427 loan announcements, the "Big Four" account for 57.3%. The number of loans issued by joint-equity banks is 196 in total, which accounts for 45.9% of the full sample pool. City commercial banks provided 16 loans, and policy banks issued 12 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 between *B* and *BBB*⁻.

Now, we look at the characteristics of the loan samples. Except the unique foreign bank loan announcement, the largest loans came from policy banks, which is not surprising since most of them are used to finance large infrastructure projects. We find that loans provided by joint equity banks are much more smaller in size than those from the other banks (e.g. \$19.84 millions vs. \$71.79 millions from the Big Four state-owned commercial banks). Due to Chinese firms' high default risk, banks prefer to 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 the shortest maturity (e.g. 1.20 years vs.

²⁶For state-owned firms, only about one third of their 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.

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 (market value). Ownership Concentration is the percentage of shares held by the largest shareholder. ANTI-CONTROL is measured in three ways: (1) the shares held by the second to the tenth largest shareholders divided by the shares held by the largest shareholders (LSH) (2) the shares held by the second to the fifth largest shareholders divided by LSH; (3) the shares of the second largest shareholder to LSH. Tobin's Q1 (resp., Tobin's Q2) is computed as market price *outstanding shares (resp., total 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 publicly 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)	253.43	134.45	393.50	149.87	326.11	136.30
Leverage 1	0.55	0.56	0.50	0.48	0.53	0.53
Leverage 2	0.59	0.40	0.56	0.33	0.57	0.39
EPS	0.15	0.19	0.18	0.18	0.17	0.18
Ownership Concentration	45.14	46.01	45.21	47.17	45.18	46.93
ANTI-CONTROL 1	0.55	0.19	0.57	0.30	0.56	0.26
ANTI-CONTROL 2	0.48	0.17	0.51	0.26	0.50	0.23
ANTI-CONTROL 2	0.24	0.10	0.28	0.09	0.26	0.10
Tobin's Q 1	2.34	1.91	2.34	1.93	2.34	1.92
Tobin's Q 2	1.17	1.09	1.21	1.08	1.19	1.08
Market Value (\$ million)	124.90	66.47	134.00	79.96	129.58	69.78
Related Transaction Ratio	0.71	0.30	1.05	0.24	0.89	0.27
Number of Firms	93		106		199	
Number of Announcements	207		220		427	

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. Percentage of Guaranteed Loans is calculated as the number of secured loans divided by the number of the whole sample, including the loans which did not indicate their security status.

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	7.97	5.01	-	2	9.33	12	6.74
Loan Size (million dollars)	71.19	19.84	60.43	42.8	539.83	10250	70.12
Maturity (year)	1.61	1.20	1.85	1.77	3.63	1.52	1.53
Percentage of Foreign Currency Loans	3.45%	3.96%	3.70%	0	12.5%	100%	4.12%
Percentage of Guaranteed Loans	56.43%	55.56%	67.44%	43.75%	41.67%	-	55.97%
Number of Loan Announcements	202	153	43	16	12	1	427

1.61 years of maturity from state-owned banks). The syndicate loans from the "Big Four" state-owned banks and joint-equity banks require more guarantees (67.44%) than non-syndicated loans. Out of 427 loan announcements, there are 12 loans in foreign currency, but there is no evidence that such type of loans is a better sign to the market.²⁷

The firm-specific variables might complement each other, so we test for multicollinearity before doing cross-section analysis. The results are presented in Appendix Table A3. We find that firms with high O/C ratio (i.e. large separation between cash flow rights and control rights) are generally owned by the state (SOE). And these high O/C ratio firms, which according to the theory are expected less vulnerable to tunneling, use less debt financing but appear to have lower anti-control ability in boards. Related transaction ratio (RT ratio) is significantly positively related to debt to assets ratio (Leverage1), implying that firms engaged in related transaction are usually highly levered. RT ratio is negatively related to EPS - firm's profitability (based on Spearman correlation test). The firms which disclosed related transactions are generally group affiliated, but appear to have higher growth rate (measured by market value to book value). We also find that firms with more concentrated ownership (i.e. high Control) have lower leverage. This might be due to the fact most highly ownership concentration are state-owned firms, which can obtain equity financing more easily due to the reverse pecking order in Chinese capital markets. Such firms are more often controlled by a group. Among our samples, firms's historical profitability - EPS is negatively correlated to their growth opportunity - Tobin's Q, negatively related to the leverage, but positively related to firm size. Firms with high growth opportunity are not highly levered, are not big in size, or not group affiliated. Generally, large firms issue more debts. They have higher EPS, and of course more affiliated into a group. They can obtain loans with larger amounts and longer terms. In addition, group controlled firms usually obtain large sized loans. Finally, loan size is positively correlated with loan term.

5 Empirical Results

5.1 Univariate Analysis

In Table 4, we present the cumulative abnormal returns of 427 announcements during the sample period from January, 2001 till December, 2006. Subgroups categorized according to the characteristics of firms, banks and loans. This allows comparison

²⁷In fact, six out of twelve, i.e. 50% firms offered foreign currency loans experienced negative abnormal returns during loans announcement periods.

between our results and those from previous research.²⁸ James (1987) finds a two-day mean abnormal return of 1.93%. Lummer and McConnell (1989) report that the two-day announcement period excess return is significantly positive (0.61%). 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 -0.42% , which is significantly negative at the 5% level. For the full sample, the percentage of loan announcements which generate negative excess returns is 55.1%. The nonparametric sign test shows that the average abnormal returns are also significantly negative at the 5% level. As we mentioned in the previous 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 than one announcements, we get a reduced sample with 119 loan announcements. This group of observations provide us an even more negative CARs: -0.98% at the 5% significant level.

We segment the full 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 -0.55% , insignificantly negative at the 10% level. But the proportion of firms that experienced negative market reactions at the announcement periods is up to 58%, which is significant at the 5% level based on nonparametric sign test. The share values of the firms with low O/C ratio however, on average decrease by 0.26%, indicating less losses compared to those of their counterparts. The CAR difference between the two subgroups is 0.29% insignificant at the 10% level. The firms with negative CARs outnumber the firms with positive market reactions in both subgroups. However, the sign test suggests that the low O/C ratio group receive an insignificant loss at the announcement periods. This result is contrary to the previous literature. The reason might be that firms with high O/C ratio are most likely owned or controlled by the state (see the correlation analysis in Appendix). In this case, the main agency problem lies between the appointed managers and the state.

For firms whose controlling shareholders are the state or state-owned enterprises, loan issue announcements lead to a negative abnormal returns of -0.55% , which is significant at the 5% level. For non-state controlled firms, loan announcements generate negative but insignificant abnormal returns of -0.16% . Moreover, 56.9% of government controlled firms suffer from market value depreciation after loan announcements, but only 51.4% non government controlled firms do so.

²⁸For ease of interpretation, unstandardized cumulative abnormal returns are illustrated in Table 4.

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. Anti-Control is the amount of shares held by the second largest shareholders divided by the shares held by the largest shareholder. Leverage is the ratio of total debts to total assets. The T-statistic 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	427	-0.42**	-2.15	55.1		-2.08
Reduced sample (firms with unique announcement)	119	-1.00**	-2.38	57.1	-	-1.56
<i>Panel A: Measures for Vulnerability to Expropriation (N=427)</i>						
Firm with high O/C ratio	238	-0.55**	-1.66	58.0	0.29	-2.46
Firm with low O/C ratio	189	-0.26	-1.36	51.3		-0.36
Firm controlled by SOE	283	-0.55**	-2.40	56.9	0.39	-2.32
Firm controlled by non-SOE	144	-0.16	-0.32	51.4		-0.33
Firm disclosing related transaction	312	-0.80***	-3.48	59.6	1.42***	-3.39
Firm not disclosing related transaction	115	0.62	1.59	42.6		1.58
<i>Anti-control</i> : Above median	213	-0.23	-1.15	50.2	0.16	0.27
<i>Anti-control</i> : Below median	214	-0.61*	-1.88	59.8		-2.87*
Firm group affiliated	292	-0.42	-1.61	54.8	0.00	-1.64
Firm non-group affiliated	135	-0.42	-1.44	55.6		-1.29
<i>Panel B: Firms' other characteristics (N=427)</i>						
<i>Firm size: total asset</i>						
Above median	212	-0.23	-0.54	56.6	0.38	-1.92
Below median	215	-0.61**	-2.49	53.5		-1.02
<i>Profitability:</i>						
Above median EPS	211	-0.21	-0.56	56.9	0.42	-1.99
Below median EPS	216	-0.63**	-2.46	53.2		-0.95
<i>Growth opportunity: Tobin's Q</i>						
Above median	213	-0.49*	-1.70	54.9	0.14	-1.44
Below median	214	-0.35	-1.33	55.1		-1.50
<i>Leverage:</i>						
Above median	215	-0.22	-0.56	55.3	0.40	-1.57
Below median	212	-0.62**	-2.48	54.7		-1.37
<i>Panel C: Loans Characteristics (N=426)</i>						
1. Loans from the Big Four	202	-0.47*	-1.86	53.5		-0.98
2. Loans from joint-equity banks	153	-0.36	-0.95	56.7		-1.69
3. Syndicate loans of 1 & 2	43	-0.70	-0.93	60.5	-	-1.37
4. Loans from policy banks	12	0.36	-0.82	58.3		-0.57
5. Loans from city commercial banks	16	0.23	0.62	43.7		0.50
Guaranteed loans	213	-0.73***	-2.71	57.3		-2.12
Non-guaranteed loans & unknown	214	-0.12	0.44	52.8	-0.95*	-0.82

The most significant results is obtained in the group of firms which disclosed related transactions. The average abnormal return for these samples is -0.80% , significantly negative at the 1% level. And the proportion of firms with negative CARs in this subgroup is 59.6%. The abnormal return for firms without related transactions disclosure is 0.62% , insignificant at the 5% level. Only 42.6% firms without related transaction reports are associated with negative market reactions after announcements. And the difference in announcement period abnormal returns between the two subgroups is significant at the 1% level.

When non controlling majority shareholders have more voting power to challenge the largest shareholders (i.e. `Anti_control` is above the median), the average market reaction is negative (-0.23%) but insignificant at the 10% level. When the largest shareholders are barely challenged (i.e. `Anti_control` is below median), the mean abnormal return is negative (-0.61%) statistically significant at the 10% level. Almost 60% of firms in the low Anti-control group experience losses in their share prices. The sign test confirms this by giving a negative statistic value at the 1% significance level.

The results also show that the average market value of the group affiliated firms decreases by 0.42% , but insignificant at the 10% level. And the proportion of negative CARs is 54.8%. Firms that are not controlled by corporation groups did not perform quite differently from group affiliated firms.

Briefly, investors devalue the shares of the borrowing firm at the announcement periods if the firms (1) have low separation between cash flow rights and control rights, or (2) are engaged in related transactions, or (3) are controlled by the state, or (4) whose largest shareholders hold absolute voting power in board rooms.

Besides the proxies for corporate governance, we find that firm size, profitability, leverage and growth opportunity also have significant influences on the magnitude of market reaction to loan announcements. In contrast to James (1987), our sample shows that small firms experienced a significant average abnormal return of -0.61% . The mean abnormal return of big firms is -0.23% , insignificantly different from zero. But large firms are associated to a higher proportion of negative CARs (56.6% for large firms vs. 53.5% for small firms).

We find firms with low profitability are associated to an average negative abnormal return of -0.63% , significant at the 5% level. High profitable firms suffer an insignificant loss of 0.21% in market value. But the differences might be caused by the correlation between EPS and other characteristics of firms, such as size, leverage, etc.

Firms with high growth opportunity (i.e. `Tobins'Q` above median) have a significant negative mean abnormal return of -0.49% . Firms with low growth opportunity do not have significant price reaction. Harvey, Lins and Roper (2003) find firms with

low growth opportunity correspond to significantly higher positive CARs. We actually find more negative CARs in the firms with high Tobin's Q. A firm with high Tobin's 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, which suggests high potential of expropriation.

The lower levered, instead of higher levered firms, are found to suffer more following the loan announcements. The average abnormal return for firms with below median debt to assets ratio is -0.62% significant at the 5% level. Note that leverage is closely correlated to firm size and profitability. Therefore, such result would be better understood in cross sectional regressions.

Interestingly, we find that firms that obtained guaranteed loans experienced significant loss in their share prices during announcement periods. The mean CARs is -0.73% and significant at the 5% level.²⁹ Loans without guarantee or with unknown security status send relatively better signals to the market. This may suggest that these borrowers have good reputation and will perform well in the future. On the contrary, secured-loan borrowers may bear high default risks such that they could not obtain loans without guarantees. To investors, secured loans are bad signals because it might imply (1) high potential of debt abuse, and (2) little return would be repaid to the investors once a firm goes bankrupt because the secured debt holders claim their rights prior to shareholders. In contrast to Preece and Mullineaux (1994), the market reaction following domestic syndicate loans in our sample pool is not positive. In fact, 60.5% of firms that obtained syndicate loans suffered from market value decreasing.

We then examine the impact of bank ownership on market reaction to loan announcements. Using the full sample, we find that out of 202 loans issued from the Big Four state-owned banks, 108 lead to losses in the share prices of borrowing firms. The mean CARs for these firms is -0.47% , significant at the 10% level.³⁰ Loans issued from other types of banks do not show significantly negative CARs. To investigate the potential agency problem in state-owned enterprises (such firms share the same owner as the state-owned banks), we then partition the full sample into two groups: one is a composite of state-owned firms borrowing from state-run banks (with the sample size equal to 144), the rests belong to the other group (N=283). The average CARs for the first group is -0.65% , significant at the 5% level. For the counterpart group, the mean CAR is only -0.30% , insignificant from zero.

²⁹Here, guarantee means all types of security, such as the third party guarantee, right pledge and mortgage, etc.

³⁰The international bank loan is removed from the following regression because we have only one observation in this pool.

5.2 Multivariate Analysis

We now conduct cross-sectional regressions to further investigate how corporate governance and bank monitoring ability interact and affect market expectations on future values of borrowing firms. The results are summarized in Table 5.

In the full-sample regressions (with 427 announcements), Model (F1), (F2) and (F3) show that Disclosing Related Transaction is the predominant factor that affects the magnitude of CARs. Model (F1) confirms the result from univariate analysis, showing that Tobin's Q can explain market reaction to loan announcements as demonstrated in previous literature. Its coefficient -1.50 (significant at the 5% level) indicates firms with high growth opportunity lose their market value when using debt financing. Nevertheless, firm's ownership structure (Anti-control) does not have significant influence in this model.³¹

Investors might update their anticipations from repeated loan announcements of the same firm. Therefore, the market reaction to loan announcements could differ even though firms' characteristics did not change. To deal with this issue, we rerun the regressions after removing the firms with multiple events during the six-year sample period. The results are illustrated as Model (R1), (R2) and (R3). We find that Anti-control becomes significant explanatory variable in the reduced sample pool, with a positive coefficient equal to 1.19. It implies that investors believe tunnelling problem is less severe in such firms. In both groups, loan guarantee sends a strongly negative signal to investors. This problem might only exist in economies with high default risk.

Model (F2) and (R2) examine the interaction between bank monitoring and firm's vulnerability to expropriation. Both models indicate that banks' efficiency in monitoring can mitigate investors' concern on poor corporate governance. This positive effect is stronger in the reduced sample (1.06 in Model R2 *vs.* 0.51 in Model F2). Once again, guaranteed loans are associated with negative market reactions at announcement periods. We also find out profitability (EPS) is no more a strong explanatory variable due to its correlation with other independent variables, e.g. firm size.

In the univariate analysis, we showed that there is a significant drop in share prices for state-controlled firms if they borrow from state-owned banks. Model (F3) and (R3) reinvestigate this point. After controlling several variables, including firm size, ownership structure, related trading activities, growth opportunity, loan size and security status, this result does not hold any longer. In fact, in the reduced sample, it is rather a positive factor in Model (R3). It might be explained as follows.

³¹As mentioned in the previous section, the ownership variables, such as anti-control, group affiliation, SOE (state-controlled firms), and O/C ratio, are correlated. Here, we did not find significant results from regressing CARs on O/C ratio, SOE, or group affiliation.

These firms do not borrow often from banks. They have lower default risks because these banks prefer to help such firms out during difficult financial periods. We also note that the coefficient for Anti-control is 1.43, which is significant at the 1% level In Model (R3).

In all regressions in Table 5, engaging in related transactions implies high probability of tunneling as believed by investors. We wonder if the amount of related transactions is also related to the magnitude of abnormal returns. This is true only if we control certain factors.³² Related transaction are complicated. Some are used by the related party to as means of tunneling, while others are used in propping strategy. These two distinct types of activities should generate reverse effects on firm value. We might find more significant results from related transaction ratio if we could classify such transactions based on their different functions.

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 objectives. Instead of being used to tunnel, some types of related transactions are used to prop up the listed firms.³³

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 before the announcement date until the 10th day after the event, including 31 trading days. We observe that the mean of CARs becomes negative from the day $t = -1$, and this move lasts several days. We reaggregate the abnormal returns within different event windows, including three days $[-1, +1]$, four days $[-1, +2]$,

³²Among 427 announcements, there are 312 are associated to related party transactions. In this subgroup,

$$CAR = -1.16 \underset{(-1.94)}{-0.21RT\ ratio} - 0.66 \underset{(-1.23)}{SOE * SOB} + 2.34 \underset{(1.85)}{Leverage} - 0.91 \underset{(-1.75)}{Guarantee} \quad (6)$$

$$pvalue = 0.067, R-SquareSquare = 0.02, N = 312$$

³³Jian & 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 427 (resp., 119) uncontaminated bank loan announcements from the full sample (resp., from firms with only one announcement). 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 (N=427) and Reduced sample (N=119)					
	Model (F1)	Model (R1)	Model (F2)	Model (R2)	Model (F3)	Model (R3)
Intercept	11.9 (1.55)	13.7 (0.93)	2.84 (0.47)	13.64 (0.25)	3.12 (0.70)	-1.27 (-0.21)
Disclosing Related Transactions ¹	-1.49*** (-2.71)	-3.51*** (-3.13)	-3.76*** (-3.14)	-7.54*** (-3.22)	-1.45*** (-2.95)	-2.82*** (-3.12)
ANTI-CONTROL ²	0.36 (0.97)	1.19* (1.93)	0.37 (1.01)	1.01 (1.64)	0.23 (0.68)	1.43*** (2.76)
SOE* State-owned bank ³					-0.16 (-0.35)	1.28* (1.67)
PL ratio	0.01 (0.06)	-0.19 (-0.83)	-0.35 (-1.63)	-0.94* (-1.96)		
PL ratio*Disclosing Related Transaction			0.51** (1.99)	1.06* (1.91)		
Leverage	1.06 (0.85)	-3.84 (-1.37)				
Firm Size (in book value)	-0.5 (-1.40)	-0.38 (-0.56)	-0.05 (-0.18)	-0.40 (-0.74)		
Firm Size (in market value)					-0.09 (-0.38)	-0.002 (-0.01)
Tobin's Q	-0.5** (-2.21)	-0.65 (-1.22)			-0.22 (-1.30)	-0.19 (-0.54)
Group affiliation ⁴					-0.19 (-0.40)	1.04 (1.26)
EPS			1.50 (1.20)	0.72 (0.52)		
Loan size (in log value)					0.03 (0.16)	0.14 (0.5)
Guarantee ⁵	-1.08** (-2.13)	-1.68* (-1.77)	-1.02** (-2.01)	-1.98** (-2.01)	-0.64 (-1.43)	-0.83 (-1.03)
Maturity (year)		0.07 (0.29)	0.09 (0.54)	0.13 (0.54)		
Number of Announcements	342	92	342	92	414	113
Adjusted R ²	0.04	0.13	0.04	0.14	0.02	0.11
p-value	0.01	0.01	0.01	<0.01	0.05	<0.01

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

²The ratio of the shares held by the 2nd to the 10th largest shareholders to the shares owned by the largest shareholder.

³Dummy variable which equals one when a state-owned firm borrows from a state-owned bank.

⁴Dummy variable which equals to one if the firm is controlled by a corporation group.

⁵Dummy variable which equals unity when the loan is guaranteed.

and six days $[-1, +4]$, the average CARs are all statistically significant. And there is no evidence of information leakage prior to these loan 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.

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 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. At Year 2005, we observe positive, but insignificantly, abnormal returns. Year 2006 gives us again a negative average abnormal returns. There is no evidence that the reforms in financial system or the "full-flotation" reform related to state-owned firms have been easing the investors' concern on tunneling and expropriation in Chinese listed companies.

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. Chinese bank credit rating is negative related to performing loans ratio, which has been showed to be a positive factor in market reaction to loan announcements.

Auditor, as one of external monitors, may have an impact on the market reaction to loan announcements. However, out of 21 firms audited by the "Big Four" accounting firms³⁴, only nine 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.

We also consider the effects of industry and geography, but find no evidence that investors' reevaluation on firm value following loan announcements 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,

³⁴They are Deloitte, Ernst & Young, PriceWaterhouseCoopers and KPMG.

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 compared to the US and UK, examining how the capital markets in these economies respond to private financing announcements is worth of further 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 than 152 million dollars, was written off through a complex asset swap at a unfair price, becoming a nightmare for SHDH.

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 have 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

Table A1
Asset Quality of Commercial Banks in China

NPL rate (%)	2006	2005	2004	2003	2002
State-owned Banks					
Big Four	9.22	10.49	15.57	16.86	26.1
Policy Banks :					
China Development Bank	0.75	0.96	1.31	1.88	2.54
China Eximbank	3.47	4.91	5.28	-	5.88
Agriculture Development Bank	7.65	10.2	-	-	-
Other Commercial Banks					
Joint Equity Banks	2.81	4.22	4.94	6.5	9.5
City Commercial Banks	4.78	7.73	-	12.85	17.7
Foreign Banks	0.78	1.05	-	-	-
Main commercial banks*	7.51	8.9	13.21	-	-

Source: Annual reports of CBRC, and commercial banks.

All NPL rates are from the fourth quarter of each year.

* Main commercial banks include both state-owned commercial banks and joint-equity banks.

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 Co.Ltd.	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

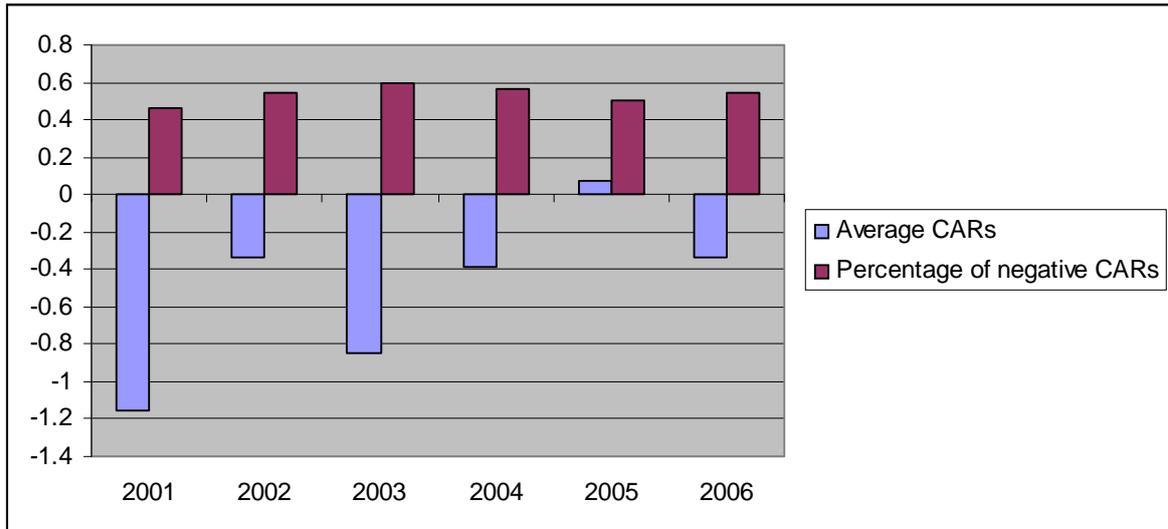
Figure A: Yearly Averaged CARs from January, 2001 to June, 2006

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Table A3: Correlation Coefficients
(Pearson upper, Spearman below)
Prob > |r| under H0: Rho=0

	O/C ratio	Rratio	Discloset	Anti-control	Secvs	Control	SOE	EPS	TobinQ1	Leverage1	Total assets	Group	Amount	Maturity
O/C ratio	1.00000	-0.01522	0.04803	-0.10044	-0.13327	0.18531	0.26078	0.02080	-0.04211	-0.07765	-0.00888	0.05566	-0.04924	-0.05906
	0.7888	0.3221	0.0380	0.0380	0.0056	0.0001	<.0001	0.6866	0.3854	0.1091	0.8554	0.2511	0.3170	0.2495
Rratio	-0.01522	1.00000	.	0.04197	0.02397	-0.11512	-0.03448	-0.00608	-0.05561	0.15601	0.02001	0.03448	0.01108	-0.07663
	0.7888	0.3221	.	0.4601	0.6732	0.0428	0.5440	0.9150	0.3276	0.0058	0.7256	0.5440	0.8470	0.2028
Discloset	0.04803	0.04197	1.00000	-0.10427	0.03238	0.08404	0.04710	0.04181	0.14354	-0.11028	0.01168	-0.11761	-0.03117	0.00667
	0.3221	0.4601	0.0312	0.0312	0.5046	0.0835	0.3316	0.3894	0.0030	0.0227	0.8105	0.0150	0.5265	0.8967
Anti-control	-0.10044	0.04197	-0.10427	1.00000	0.73496	-0.70105	-0.17843	-0.02264	0.02796	0.10650	-0.05867	-0.14919	-0.03759	-0.01896
	0.0380	0.4601	0.0312	0.0312	<.0001	<.0001	0.0002	0.6413	0.5646	0.0278	0.2280	0.0020	0.4450	0.7118
Secvs	-0.13327	0.02397	0.03238	0.73496	1.00000	-0.69927	-0.18874	-0.00632	0.02159	-0.01971	-0.03330	-0.11054	-0.03156	-0.00198
	0.0058	0.6732	0.5046	<.0001	<.0001	<.0001	<.0001	0.8965	0.6565	0.6846	0.4941	0.0223	0.5214	0.9692
Control	0.18531	-0.11512	0.08404	-0.70105	-0.69927	1.00000	0.17575	0.06201	0.02449	-0.18188	0.05347	0.16079	-0.04481	0.00888
	0.0001	0.0428	0.0835	<.0001	<.0001	<.0001	0.0003	0.2026	0.6146	0.0002	0.2720	0.0009	0.3637	0.8628
SOE	0.26078	-0.03448	0.04710	-0.17843	-0.18874	0.17575	1.00000	-0.03067	-0.10207	-0.10455	0.06459	0.28203	0.08061	-0.01275
	<.0001	0.5440	0.3316	0.0002	<.0001	0.0003	0.0003	0.5278	0.0350	0.0308	0.1844	<.0001	0.1010	0.8038
EPS	0.02080	-0.00608	0.04181	-0.02264	-0.00632	0.06201	-0.03067	1.00000	-0.14212	-0.25793	0.08410	0.03236	0.10930	0.06652
	0.6866	0.9150	0.3894	0.6413	0.8965	0.2026	0.5278	0.0033	<.0001	0.0940	0.5053	0.0262	0.1951	
TobinQ1	-0.04211	-0.05561	0.14354	0.02796	0.02159	0.02449	-0.10207	-0.14212	1.00000	-0.22838	-0.14845	-0.25270	-0.04644	-0.06484
	0.3854	0.3276	0.0030	0.5646	0.6565	0.6146	0.0350	0.0033	0.0033	<.0001	0.0022	<.0001	0.3454	0.2061
Leverage	-0.07765	0.15601	-0.11028	0.10650	0.01971	-0.18188	-0.10455	-0.25793	-0.22838	1.00000	0.11353	-0.01625	0.01877	-0.01070
	0.1091	0.0058	0.0227	0.0278	0.6846	0.0002	0.0308	<.0001	<.0001	0.0194	0.7378	0.7030	0.8349	
Total assets	-0.00888	0.02001	0.01168	-0.05867	-0.03330	0.05347	0.06459	0.08410	0.11353	1.00000	0.09477	0.45156	0.14203	
	0.8554	0.7256	0.8105	0.2280	0.4941	0.2720	0.1844	0.0840	0.0022	0.0194	0.0512	<.0001	0.0055	
Group	0.05566	0.03448	-0.11761	-0.14919	-0.11054	0.16079	0.28203	-0.25270	-0.01625	0.09477	1.00000	0.09465	0.04563	
	0.2511	0.5440	0.0150	0.0020	0.0223	0.0009	<.0001	0.5053	<.0001	0.7378	0.0512	0.0540	0.3738	
Amount	-0.04924	0.01108	-0.03117	-0.03759	-0.04481	0.08061	0.10930	-0.04644	0.01877	0.45156	0.09465	1.00000	0.14253	
	0.3170	0.6470	0.5265	0.4450	0.5214	0.3637	0.1010	0.0262	0.7030	<.0001	0.0540	0.0000	0.0058	
Maturity	-0.05906	-0.07663	0.00667	-0.01896	0.00198	0.00888	-0.01275	0.06652	-0.06484	-0.01070	0.14203	0.04563	0.14253	
	0.2495	0.2028	0.8967	0.7118	0.9692	0.8038	0.1951	0.2061	0.8349	0.0055	0.3738	0.0058	0.0058	



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