

Ownership, Institutions, and Capital Structure: Evidence from Chinese Firms

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Abstract

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Keywords: banking development, debt maturity, legal environment, small firms, state ownership

JEL Classification: G32

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Abstract

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1. Introduction

Since China introduced economic reforms in the later 1970's, it has been growing more rapidly than any western economies. If current paces of growth persist, China will overtake the US and become the largest economy within a decade. The increasing importance of China in the world economy contrasts with our limited understanding of how China and Chinese firms in particular achieve remarkable success in expanding growth.

In this paper, we focus on understanding what factors influence the financing decisions of Chinese firms using a new firm-level database. Motivated by early work such as La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997), Demirgüç-Kunt and Maksimovic (1998, 1999), and Booth, Aivazian, Demirgüç-Kunt, and Maksimovic (2001), we link our investigation with ownership and governance structures and the quality of the institutional framework. Our focus is on answering three questions:

1. Do different ownership and governance structures affect the access of Chinese firms to debt, especially to long-term debt?
2. Do differences in the institutional framework across regions in China affect firms' leverage decisions?
3. How small firms are affected by ownership structures and the quality of institutional environments in their financing decisions?

These questions are particularly important for emerging countries like China where the overall financial systems and institutions are underdeveloped, and the government exerts considerable influence in all aspects of the economic activities.

China is an interesting case to explore how different ownership and governance structures affect individual firms' leverage decisions. On one hand, after more than two decades of economic reforms, the state's share of both enterprises and total assets in the economy is receding, and eclipsed by collective, foreign, and private ownership. On the other hand, China's financial system is dominated by a large but underdeveloped banking system that is mainly controlled by the four largest state-owned banks. The government still puts pressure on the banking system to lend primarily to state enterprises, and provides reference borrowing and

lending rates that banks rarely deviate, with little regard for financial considerations (Gordon and Li (2003), and Allen, Qian, and Qian (2005)). Financing by firms through stock listing and the issuance of bonds is a recent phenomenon and small in magnitude.¹ While the literature has examined the role of state ownership (of firms such as Dewenter and Malatesta (2001) and of banks such as Sapienza (2004)) on corporate financial decisions, many firms in emerging countries are privately owned, or owned by foreign investors, or joint ventures. These different ownership structures bring about different governance mechanisms within the firm. Our study provides fresh new evidence on the role of diverse ownership and governance structures on individual firms' leverage choices using firm-level data from China.

Research by Rajan and Zingales (1995), La Porta et al. (1997), Demirgüç-Kunt and Maksimovic (1998, 1999), Booth et al. (2001), and Giannetti (2003) have shown that a country's development of its legal and institutional framework matters in firms' capital structure decisions. When the legal system is inefficient or costly to use, short-term debt is more likely to be employed than long-term debt. What is overlooked from this line of research is the fact that there are substantial differences in institutional development even within a country, and those differences could also affect firms' financial decisions in a similar way as the institutional differences across countries. The advantage of conducting inter-region studies within one country is that we can capture the effect of institutions on corporate decisions free of contamination due to country differences in accounting rules, taxation, bankruptcy laws, and available forms of financing. In this paper, we use data from China to explore the consequences of regional disparities on corporate decisions.

¹ As of 2002, banking assets comprise 77 percent of China's entire financial asset pie where the "Big Four" state banks represent a 59 percent share of the banking assets, the market capitalization of listed firms accounts for 15 percent, and the value of outstanding bonds (primarily government bonds) rank last at a mere nine percent (Barth, Koepp, and Zhou (2004)). According to Gordon and Li (2003), and Bai et al. (2004), State enterprises, especially the large ones, benefited substantially from the rapid growth in issuance and the general public enthusiasm on equity markets. In contrast, most other businesses in China typically obtain external financing from banks rather than through issuance of securities.

We employ a new firm-level database covering the entire population of predominantly unlisted manufacturing firms tracked by the Chinese statistical authorities. We show that Chinese firms appear to have higher leverage compared to listed firms from other developing countries; and Chinese firms primarily employ short-term debt in their capital structures.

We find that ownership and governance structures exert strong influences on individual firms' financing decisions: leverage increases with state and private ownership, and decreases with foreign ownership; and state ownership increases the access of firms to long-term debt. The result on state ownership is consistent with the Chinese government's dual roles as the (majority) shareholders of SOEs as well as the owners of all the major banks. Private ownership is important for firms to obtain loans, possibly through the reputation and relationship channels as identified by Allen et al. (2004). Foreign ownership brings in not only capital and technology but also modern management and better governance practices. As a result, we find foreign firms are not as highly levered as domestic firms and have longer debt maturity than other firms.

The disparities in institutional and economic development across regions matter in Chinese firms' capital structures. Firms in regions with more competitive banking sectors and better legal environments have lower total debt relative to assets. This suggests that under the current banking reforms, banks gradually start to apply economic criteria in their lending decisions and as a result, poorly performing firms in regions with better developed banking sectors cannot borrow as much as before. Large and fast-growing regional economies are associated with more, often short-term borrowing by local firms; and large economies increase the access of local firms to long-term debt while faster growing economies have the opposite effect.

Ownership structures and institutional environments affect large and small firms differently. Our evidence suggests that small firms are more likely to be squeezed out of the long-term loan markets and thus they do not benefit as much from better institutions and economic development as large firms.

The combination of ownership and institutional factors explains two to seven percent of the total variation in firms' leverage decisions. In contrast, the firm characteristics alone explain nine to thirteen percent of the variation. Our study highlights the importance of considering ownership structures and the quality of the institutional framework on firms' financing choices in emerging countries.

Our study is closely related to this growing literature that examines capital structure choices across countries and considers how country differences in institutions and laws affect these choices. Rajan and Zingales (1995) focus on public firms in the major industrialized countries and find that factors identified by US studies, such as firm size, the tangibility of assets, market-to-book ratio, and profitability are similarly correlated with capital structure choices in these other countries. Using aggregate country-level data, Demirgüç-Kunt and Maksimovic (1999) show that large firms in countries with effective legal systems have more long-term debt relative to assets, and their debt is of longer maturity. For small firms, evidence of a relation between the effectiveness of the legal system and the long-term debt ratio is weaker. Booth et al. (2001) examine the largest public firms in ten developing countries and show that financing decisions of these firms are affected by the same variables as in developed countries. They also find that there are specific country factors at work, and call for more work "to be done to understand the impact of different institutional features on capital structure choices" (Booth et al. (2001, p. 87)). Using a database containing mostly unlisted European firms, Giannetti (2003) finds significant differences across countries in how leverage and debt maturity are determined, and suggests that institutional characteristics in these countries are responsible for these differences. Fan, Titman, and Twite (2004) show that a country's taxation and inflation policies as well as its legal and political institutions have an important effect on how its corporations are

financed. In addition, the financial institutions that supply capital influence the type of capital that is used.²

Very often, these studies focus on the largest public firms in each country and they only have limited information regarding ownership. Our new firm-level data from China covers predominantly (more than 99%) unlisted firms with extremely detailed ownership information, and thus enables us to better understand the role of (diverse) ownership structures on leverage decisions among unlisted firms in emerging markets.

Many papers have been written about the effects of China's economic reforms on productivity and the impact of its share issue privatization and shareholding incorporation programs on firm performance (see for example, Li (1997), Zhu (1999), Zhang, Zhang, and Zhao (2002), Sun and Tong (2003), Wei, Varela, D'Souza, and Hassan (2003), Aivazian, Ge, and Qiu (2005), and Xu, Zhu, and Lin (2005)). In contrast, there is only limited evidence on Chinese firms' financing choices. Huang and Song (2002) examine capital structure choices of listed Chinese firms and show that leverage increases with firm size, depreciation, and fixed assets, and decreases with profitability and state ownership. Chinese firms tend to have much lower long-term debt than firms from other developing countries. Brandt and Li (2003) find evidence suggesting that private firms in China are discriminated against in getting bank loans and they resort to more expensive trade credits instead. Cull and Xu (2003) show that bank finance is positively linked to both profitability and measures of reform of SOEs. Allen et al. (2005) conclude that alternative financing channels based on reputation and relationships, support the growth of the private sector. Cull and Xu (2005) show that productivity, growth, and profitability in private enterprises are positively associated with their access to bank loans. They also find that firms with close relationships with the government are more likely to receive loans from the state banks. Different from these earlier work, we focus on both the demand (i.e., the firm) and supply

² Using firm-level data within a country, Wiwattanakantang (1999) shows that ownership structures and governance mechanisms have influence on Thai firms' debt policy choices, and Kumar (2004) finds that listed Indian firms with weaker governance mechanisms, and dispersed ownership structures, are associated with a high level of debt.

(i.e., the state ownership in firms and banks) sides of the loan market and the quality of regional institutional development to provide an understanding of the Chinese firms' financial leverage decisions.

The plan of the paper is as follows. We discuss our sample and variable construction in the next section. Section 3 describes our empirical model of capital structure. Section 4 presents our main results and provides our interpretation, and Section 5 conducts additional investigation and some robustness checks on our results. Section 6 concludes.

2. Sample Overview and Variable Construction

Our primary source is data collected by the State Statistical Bureau (SSB). It includes all manufacturing firms classified as SOEs regardless of their annual sales, and other manufacturing enterprises reporting more than five million yuan (approximately \$600,000) of annual sales. For these firms, the SSB collects and reports a broader set of balance sheet and income statement measures.³ These manufacturing firms and the data the SSB report constitute the database for this study.

An important feature of our SSB data is that it contains two ownership measures at a firm level: a continuous measure of ownership composition based on the fraction of paid-in-capital contributed by different types of investors, such as the state, individuals, and foreigners; and a categorical measure of firms' ownership status assigned by the SSB (see Appendix I and Allen et al. (2005) for a detailed discussion on the ownership classification of the Chinese firms). Hence it offers a great opportunity to explore the interaction between ownership structures and firms' financing decisions.

³ According to Allen et al. (2005), China's accounting system began its reform in 1992. Since then, China's accounting standards have been moving gradually towards the North American Generally Accepted Accounting Principles (GAAP).

Our second source of data comes from Fan and Wang (2004). The banking development index measures the extent of competition in the banking sector and the extent to which the banks employ economic criteria in their capital allocation. The legal environment index measures the development of market intermediaries, and protection of property rights, copyrights, and consumers. Table A1 offers a more in-depth discussion of how these indices are constructed. In untabulated results, we show that there are clear disparities across regions in terms of the quality of the institutional framework.

Our third source of data comes from the various issues of the China Statistical Yearbook, capturing the overall economic development of different regions. We measure the size of the regional economy by its GDP at the provincial level, and the rate of the economic growth using the annual growth rate of GDP. We compute the ratio of employment by state enterprises to the overall employment within a province to proxy for the extent of government intervention in the local economy.

Sample Overview

The sample consists of all manufacturing firms in thirty 2-digit SIC industries covered by the SSB over the years 2000-2003.⁴ We drop observations with negative values of total assets, total liabilities, and sales.⁵ To deal with outliers and the most extremely mis-recorded data, we winsorize all firm-level variables at the one percent level in both tails of the distribution. Despite its short time series coverage, the SSB data is the largest data set available on financing decisions of Chinese firms. The collected information is detailed enough to allow us to construct variables

⁴ As a result, our sample includes listed firms as well. There are about 700 listed manufacturing firms during the sample period, consisting less than 0.3 percent of the sample (see Appendix II). Our results are primarily driven by the vast unlisted firms.

⁵ Our final sample has 629,895 firm-year observations (about 90 percent of the SSB population), covering 260,095 unique firms. Among them, 74,059 firms appear in all four sample years, 48,654 firms appear in three sample years, 50,303 appears in two sample years, and 87,091 firms appear in the data for only one year. The average (median) number of years a firm appears in the database is 2.4 (2).

that are known to be relevant to firms' capital structure decisions. All level variables such as sales and total assets are converted into 2003 US dollars.

Table 1 presents an overview of our sample firms. Panel A shows the breakdown of our sample firms by ownership status. The importance of SOEs and collective-owned enterprises in the economy is diminishing over time, with each group consisting about 15 percent and 23 percent, respectively, of the total sample.⁶ The proportions of Hong Kong, Taiwan, and Macau-owned (HMTs) and foreign-owned enterprises keep rising during the sample period, reflecting the immediate impact of China's accession to the World Trade Organization since 2001. Together, these two groups of firms comprise about 20 percent of the total sample. Since 1998, China has expanded its reform programs on ownership conversion—namely the conversion of SOEs into shareholding corporations (without privatization) (Zhu (1999), Aivazian et al. (2005), and Xu et al. (2005)). As a result, the number of shareholding corporations has grown at an unprecedented pace. By the end of our sample period, the fraction of shareholding corporations is about the same as that of SOEs in the sample, at 14.4 percent. The most dynamic sector of the Chinese economy, the private sector, takes a 27 percent share of the sample. The last category of firms including state-collective jointly operated enterprises and other jointly operated enterprises, comprises less than one percent of the sample.

Panel B presents some basic statistics of firms in different ownership categories. HMTs and foreign firms are much larger than SOEs: the median HMT firm is about three times the median SOE in the sample, and the median foreign firm is about four times the median SOE. Private enterprises appear to be the most profitable, with a median ROA at 5.3 percent, while collective-owned firms are in close second place. Not surprisingly, the performance of SOEs is dismal, with the lowest median ROA at 0.3 percent. The final column of panel B shows that the percentage state ownership in SOEs is the highest, at 83 percent on average, while the state

⁶ In 1997, Premier Zhu Rongji put China's loss-making SOEs on a strict three-long schedule during which they were instructed to implement a "modern enterprise system" and convert losses to profits. Two important changes took place since late 1990's: a rapid decline in the number of SOEs and declining employment levels within surviving SOEs. Our sample partially captures the former effect.

control of other types of firms, with the exception of shareholding and other companies, is less than 5 percent.

The SSB also assigns firms into large, medium, and small firm categories. For the manufacturing industries, a firm is classified as large (medium) if its number of employment exceeds 2,000 (between 300-2,000), its annual sales exceeds 300 million yuan (approximately \$37 million) (between 30-300 million yuan), and its total assets exceeds 400 million yuan (approximately \$50 million) (between 40-400 million yuan). If a firm fails to meet all these criteria simultaneously, it will be classified one notch down the size category.

Panel C of table 1 shows that large firms comprise about 4 percent of the sample, medium firms about 9 percent, leaving 87 percent of our sample to be small firms. The extensive coverage of small firms (all of them are unlisted) is an important feature of our data.⁷ To capture the potential heterogeneity across small firms, we further break them down into quintiles using sales. Panel D of table 1 shows that the performance of large firms is similar to that of medium size firms, but is not as good as small firms. The state ownership in large firms is much higher than that of two other size groups. Within small firms, performance increases with firm size, while state ownership declines with firm size. It is clear that most of the poorly performing smallest firms are SOEs.

Summary Statistics

We calculate a firm's leverage ratio (LEV) as its total liabilities divided by total assets. This is the ratio that is commonly used for studies in developing countries (see Booth et al. (2001), and Dewenter and Malatasta (2001)). Demirgüç-Kunt and Maksimovic (1999) show that firms in developing countries tend to employ more short-term debt financing. We compute a

⁷ There is a notable shift in size composition in year 2003 when the SSB implemented its new classification criteria: there is a substantial portion of large firms moved down one notch to the medium size category. Knowing that the size category of a firm assigned by the SSB have important implications on its ability in seeking financing (through our conversation with loan officers), we opt not to regroup firms prior to 2003 according to the new criteria, as that would be artificial and introduce noises to our size grouping analyses.

firm's short-term debt ratio (STA) as its short-term liabilities divided by total assets. We also construct two debt maturity measures: the first is an indicator variable, LTD dummy, set equal to one if the firm has long-term liabilities in a specific year, and zero otherwise; the second measure, debt maturity, is the ratio of long-term liabilities to total liabilities conditioning on that the firm has long-term debt.

Table 2 provides basic summary statistics of our capital structure measures. Panel A presents the correlation matrices. There is high correlation between total and short-term debt ratios, reflecting the fact that most of the liabilities on Chinese firms' balance sheets are short-term. Panel B presents the summary statistics for the full sample. We find that both total and short-term leverage ratios have been declining over time. About 40 percent of sample firms employ long-term debt. Debt maturity is relatively stable over time.

During the sample period, there are about 700 listed manufacturing firms in China. Appendix II shows that the median leverage ratio for listed firms is lower than that of the unlisted firms in our sample, suggesting that listed firms prefer to finance through public equity instead of debt. Over 80 percent of listed firms have access to long-term debt, in comparison to only 40 percent of our sample firms having long-term debt.

We briefly compare our leverage numbers to other studies.⁸ Demirgüç-Kunt and Maksimovic (1999) show that the long-term debt ratio for large (small) public firms in developing countries is around 27 percent (18 percent), the short-term debt ratio for large (small) firms is around 33 percent (34 percent), and debt maturity for large (small) firms is around 45 percent (32 percent). Their results suggest that Chinese firms have higher leverage with a relatively higher proportion of short-term debt. Comparing our leverage numbers with those in Booth et al. (2001), it appears that Chinese firms have similar total debt ratios as listed Turkish firms (60 percent), and our leverage numbers are only lower than those of their high-leverage

⁸ One caveat to our leverage comparison is that our sample of Chinese firms is primarily unlisted firms, while most existing studies focus on public firms across countries.

group consisting of Indian, South Korea, and Pakistan. Rajan and Zingales (1995) show that in early 1990's, public firms in developed countries have leverage ratios ranging from 58 percent in the US to 74 percent in Germany. Using a more recent data set that include unlisted European firms, Giannetti (2003) reports total leverage ratios in the range of 49 percent (Ireland) to 60 percent (Italy). We conclude from the above comparison that Chinese firms appear to have higher leverage, and their capital structure has disproportionately high short-term debt than firms in other countries. The former finding is consistent with the fact that China has severely underdeveloped financial systems and as a result, firms primarily have to rely on banks for external financing. Moreover, interest rates on bank loans are fixed by the government at an artificially low level, and hence all firms have strong incentives to borrow and the banks cannot charge differential rates based on risk (Brandt and Li (2003), and Barth et al. (2004)).⁹ The latter finding is consistent with the observation made by Demirgüç-Kunt and Maksimovic (1999) and many others that there is an inverse relation between the inefficiency of a country's legal system and the use of long-term debt. Allen et al. (2005) show that in terms of overall investor rights, China falls in between the English-origin countries that have the highest measures of protection, and French-origin countries that have the poorest protection, and the development of China's legal system is not ahead of any of the other major emerging economies.

Panel C of table 2 presents the summary statistics of our leverage measures based on ownership status. SOEs tend to employ the highest leverage, while foreign-owned firms have the lowest leverage. SOEs are also far more likely to employ long-term debt. Private firms have the longest maturity. All these findings are consistent with Dewenter and Malatesta (2001) who suggest the potentially important role of ownership structures in firms' financing decisions.

⁹ The central bank—the People's Bank of China (PBC) provides reference interest rates for short and long-term loans and only grants local bank branches minor discretion in adjusting their lending rates around the PBC rate. During our sample period, banks are allowed to set their borrowing rates within a 10% range of the reference rate for loans to large firms, and within a 20% range for loans to medium and small firms. Almost always, the local bank branches just charge the maximum allowed rate on their loans given that they do not have expertise in accessing firm credit risk.

Panel D of table 2 presents the summary statistics based on size breakdown. There is no clear pattern of leverage ratios across different size groups except that large firms are most likely to have long-term debt. Among small firms, firms in the lowest quintile are most likely to have long-term debt. From table 1, panel D, we know that these firms also have the highest state ownership. Most likely, many of these smallest firms are SOEs. These firms also have the longest debt maturity.

3. Capital Structure Determinants

To answer the three questions raised in the introduction, we run the following reduced form equation:

$$\begin{aligned} \text{Leverage Measure}_{it} = & \alpha + f_t + \beta_1' FIRM_{it} \\ & + \beta_2 \text{State Ownership}_{it} + \beta_3 \text{Private Ownership}_{it} + \beta_4 \text{HMT Ownership}_{it} + \beta_5 \text{Foreign Ownership}_{it} \\ & + \beta_6' INSTITUTION_{it} + \beta_7 \text{GDP}_{it} + \beta_8 \text{GDP Growth}_{it} + e_{it}, \end{aligned} \quad (1)$$

which extends existing work by Demirgüç-Kunt and Maksimovic (1999) and Booth et al. (2001) by including the ownership and/or institutional characteristics.

For firm i in year t , *Leverage Measure* can be total leverage ratio (LEV), short-term debt ratio (STA), the likelihood of having long-term debt (LTD dummy), and debt maturity. *FIRM* is a vector of control variables, composed of firm size, firm maturity, profitability, tangibility and other characteristics that are known to affect firms' financing decisions (Bradley, Jarrell, and Kim (1984), Titman and Wessels (1988), Barclay and Smith (1995), Rajan and Zingales (1995), Guedes and Opler (1996), Booth et al. (2001), and Frank and Goyal (2005)).¹⁰ Table A1 gives a detailed description of all our control variables.

The variables of interest are those related to ownership and governance structures and the institutional framework. We employ four ownership variables to capture the diverse ownership

¹⁰ In China, interest payments on debt are tax deductible, and HMTs and foreign firms enjoy tax waiver and tax deduction for initial periods.

mix in the data: ownership by the state, the private sector, the overseas Chinese (Hong Kong-Macau-Taiwan investors), and the foreign investors. According to Shleifer and Vishny (1994), direct state ownership is often associated with the pursuit of political objectives at the expense of other stakeholders in the firm. In China, the role of government in corporate financing decisions is pivotal given its dual roles as the (majority) shareholders of (state) firms as well as the owners of all the major banks. After more than twenty years of economic reforms, the state sector remains a formidable part of the national economy, especially in terms of employment and fixed assets. Maintaining employment and social stability, instead of profit maximization in SOEs, have been the primary goal of the Chinese government.

On one hand, a controlling government stakeholder can use SOEs and state banks to achieve these other policy goals, even though they may conflict with banks' interests. According to Gordon and Li (2003), and Allen et al. (2005), SOEs receive a disproportionately large share of credit extended by the large state banks. We thus expect a positive relationship between state ownership and various leverage measures.

On the other hand, the control by other types of investors will weaken the intervention by the government in corporate matters. Wei et al. (2003) and Bai et al. (2004) show that issuing shares to foreign investors is associated with higher market valuation and better firm performance. Cull and Xu (2005) find that the share of private ownership has a positive effect on profit reinvestment rates. Given that these firms are better run, the state-owned banks and their ultimate owner, the government, have an incentive to lend any excess funds to the best private borrowers. However, foreign firms may have access to offshore capital, and private firms may rely on alternative financing channels based on reputation and relationships (Allen et al. (2005)). *A priori*, it is not clear how private and foreign ownership affect firms' financing choices.

Our measures of the quality of the institutional framework across different regions in China are the banking development index, the legal environment index, and the marketization index from Fan and Wang (2004), and the deregulation index from Démurger et al. (2002).

Studies by La Porta et al. (1997), Demirgüç-Kunt and Maksimovic (1999), and Giannetti (2003) have shown that better legal rules and better protection of creditors are associated with more long-term debt financing; and in countries with a large banking sector, small firms have less short-term and more long-term debt. Different from these studies, our measures of institutional quality are with respect to different regions within one country. As a result, our study is not subject to concerns regarding differences in taxation, accounting practices, and bankruptcy laws across countries (Rajan and Zingales (1995)).

Finally, we also control for the economic development of different regions by including regional GDP, growth rate of regional GDP and the size of state sector.¹¹ Booth et al. (2001) show that higher real economic growth tends to cause firm leverage ratios to increase, suggesting that firms can borrow against growth prospects.

Table 3 presents the correlation matrix of our ownership and institutional variables. There is strong correlation among the various institutional variables. In our subsequent regression analyses, we include one institutional measure at a time to highlight the individual effect of different aspects of institutions.

Our basic empirical model in equation (1) is a panel data regression, and hence the significant test of coefficients are based on robust standard errors, estimated assuming independence across firms, but accounting for possible autocorrelation within the same firm. Note that the robust standard errors are frequently much larger than conventional estimates, which assume independence among firm-year observations, so our significance tests are not inflated by the large number of firm-year observations in our sample. Year dummies are included in all specifications to capture the temporal effect.

¹¹ Using regional GDP per capita and the corresponding growth rate does not affect our main results.

4. Main Results

Full Sample

Table 4 presents the regression results using the full sample. We focus on the full model specification as given in equation (1). Ownership and governance structures affect leverage. Leverage increases with state ownership, which is consistent with the dual roles of Chinese government as the owner of SOEs and four largest domestic banks. Leverage also increases with private ownership, but the effect of private ownership on leverage is much smaller than that of state ownership on leverage. Ownership by either overseas Chinese or foreign investors are associated with lower leverage. The evidence suggests that Chinese firms are inefficiently highly levered, while better management and governance practices associated with foreign ownership lead to lower leverage.

Institutional environments and the level of economic development matter in firms' financing choices. Firms in regions with more competitive banking sectors tend to have lower leverage. Better legal environments are also associated with lower leverage. Both results are consistent with our earlier finding that Chinese firms are highly levered and better institutional framework helps firms reduce their leverage. That is, a competitive banking sector is likely to extend loans based on economic criteria which will reduce the leverage of poorly-performing firms. Finally, firms in large and fast growing economies are associated with higher leverage. This is not surprising given that the rate of expansion of Chinese stock markets falls far behind the development of the national economy, firms are simply borrowing against future prospects.

The results in panel B for short-term debt are similar to those for total leverage, although in some cases a little weaker. To the extent that the theories of capital structure explain capital structure of public firms in developed countries, it is actually striking that the same set of firm characteristic has decent explanatory power for short-term debt of unlisted firms in a transitional economy.

Examining the factors that influence firms' access to long-term debt sheds some interesting light beyond our analyses on different leverage ratios (see panel C of table 4).¹² The state ownership in a firm increases its likelihood of having long-term debt, while ownership by all other investors, either domestic or foreign investors does not increase the firm's chance of having long-term debt. This evidence concurs with our earlier findings that the government still plays an important role in firms' borrowing and banks' lending decisions given its dual capacities as the owners of both the lender (SOEs) and the creditor (the state banks). The net outcome is that SOEs have better access to long-term financing than justified based on economic criteria. Better developed institutional framework reduces firms' chances of getting long-term debt. This finding is consistent with the argument by Diamond (1991) that lenders who engage in monitoring have an incentive to make short-maturity loans. Our evidence suggests that under the on-going banking reforms, banks start to apply economic criteria in their lending decisions and to monitor lenders. Large but not fast-growing economies are associated with local firms' better chances to get long-term loans. We suspect that fast-growing economies are populated with fast-growing firms and from a risk perspective, these firms are less likely to meet the criteria for long-term borrowing.

Panel D of table 4 presents the debt maturity regression results using the sub-sample of firms having long-term debt.^{13, 14} State and domestic private ownership reduces debt maturity, while foreign ownership lengthens maturity. This last result suggests that foreign firms with better management and corporate governance practices are more likely to receive larger amount of long-term funding relative to assets. Firms in regions with more competitive banking sectors tend to have shorter maturity. Again, this is consistent with the conjecture that when banks become competitive in their lending decisions, they are more likely to grant short-term loans that

¹² The industry median in the probit analysis is constructed as the frequency of firms having long-term debt in that industry for a given year. Thus, it is not a median measure but the industry average.

¹³ The median industry maturity measure is constructed as the median maturity for the sub-sample of firms having long-term debt in that industry for a given year.

¹⁴ We also run a tobit model of debt maturity using the full sample and the results are qualitatively the same as those from the sub-sample of firms with long-term debt

subject lenders to constant monitoring (Barclay and Smith (1995)). Better legal environments in contrast, are associated with longer maturity. This finding confirms La Porta et al. (1997) and Demirgüç-Kunt and Maksimovic (1999) that better legal protection encourages longer-term financing even for unlisted firms in a transitional economy. Finally, fast growing economies reduce firms' debt maturity. This is consistent with our earlier finding that firms in fast growing economies are less likely to receive long-term financing due to risk considerations.

How Important Are Ownership and Institutions in Capital Structure Decisions?

So far the evidence demonstrates the significance of considering ownership structures and institutional framework in firms' financing choices and partly answered the first two questions raised in the introduction. To get a sense of to what extent our ownership and institutional variables influence firms' leverage decisions, in table 4, we present three alternative specifications by including separately firm characteristics, ownership characteristics, and institutional variables, one group at a time to explain the variation in capital structures.

Panel A of table 4 shows that the full model specification explains about 16 percent of the total variation in leverage ratios. The adjusted R^2 for the alternative specifications indicates that the ownership and institutional variables alone explain 6 percent and about one percent (depending on the specification), respectively, of the variation in total debt. In contrast, the firm variables alone explain 13 percent of the variation, similar to the findings in Rajan and Zingales (1995) and Giannetti (2003) using data from developed countries. The combination of ownership and institutional factors thus contributes to more than a third of the explanatory power of our full model specification. Panels B-D give the explanatory power of different sets of control variables for short-term debt and debt maturity. We find that the impact of our ownership and institutional variables on firms' capital structure choices is greatest in the likelihood of firms having long-term debt. The ownership and institutional variables together explain roughly half the total variation in the probability that a firm has long-term debt (Panel C). Our evidence highlights the

fact that in an emerging country with no well-developed legal framework, capital structures are not just firms' own choices, but are subject to government interference and various institutional constraints (La Porta et al. (1997), and La Porta, Lopez-de-Silanes and Shleifer (2002)). These market frictions are especially acute in the case of long-term financing where the influence from the government is strongest (Gordon and Li (2003), and Allen et al. (2005)).

We also compute the economic significance of the ownership and institutional variables (untabulated). We find that an increase in state (private) ownership from the median to the 95th percentile will increase the percentage of total debt by about 9 (1) percent, while an increase in ownership by overseas Chinese (foreigners) from the median to the 95th percentile will reduce the percentage of total debt by about 12 (8) percent. An increase in the banking competitive (legal environment) index from the median to the 95th percentile will reduce total debt by 2 (6) percent. An increase in regional GDP growth (growth rate) from the median to the 95th percentile will increase the percentage of total debt by about 2 percent.

There is a clear message from our analyses so far. Capital structures of Chinese firms are affected by the same firm characteristics as in other countries, and ownership and institutional factors are important considerations for firms in emerging countries. Standard capital structure theories such as the Static Tradeoff Model and the Pecking Order Hypothesis are based on the premise that the markets for corporate loans are competitive, and hence the predictions from these theories focus on the demand side for debt financing—firm characteristics. However, emerging countries such as China are characterized with underdeveloped financial systems and institutions and strong intervention by the government in corporate matters. The evidence in this paper points out the inadequacy of the conventional capital structure theories that fail to consider the supply side of the loan markets, to explain capital structure choices in emerging countries.

Size Sub-samples

There is considerable evidence that firm size is related to a firm's productivity, survival, and profitability. Understanding how ownership and governance structures and institutional factors affect firms of different sizes has clear policy implications. Our data offers a rare opportunity to explore the financing decisions of small unlisted firms in emerging countries so that we can answer the last question raised in the introduction.

Table 5 presents leverage regression results based on our two-tier size breakdown. Due to space constraints, we only report regression results on the ownership and institutional variables for the three SSB size groups and the top, middle, and bottom quintiles within the small firm group. Panel A presents regression results using total debt as the dependent variable. Ownership and governance structure variables have similar effects across different size groups, except for the bottom quintile of small firms. Private ownership does not have any significant effect on these firms' financing decisions. By comparing the magnitude of coefficients on the state ownership variable across different size groups, it is clear that the smallest firms benefit the most from the state ownership in getting financed. Our institutional and developmental measures have similar effects on leverage across different size groups.

For short-term debt financing (panel B), ownership by overseas Chinese or foreigners has no effect on large firms' short-term financing, while reduces short-term debt for medium and small firms. One possible explanation is that firms with overseas ownership are more efficiently run and thus they do not rely on the more-expensive short-term trade credit for financing (Brandt and Li (2003), and Allen et al. (2005)). The banking development index has very different effects across size groups: the competitiveness of a region's banking sector reduces short-term financing of large and medium local firms, consistent with our full sample results. However, the competitiveness of the banking sector increases short-term financing of small firms except with the bottom quintile. During our sample period, the banks are experiencing their own reforms. The objective of these reforms is to introduce profit-seeking orientation in operating the state

banks and to reduce risk exposure at the same time. As a result, banks become more competitive and start to adopt economic criteria in their lending decisions (Barth et al. (2004)). Since the loan rates can only vary within a narrow range of the reference loan rates provided by the Central Bank, this limited flexibility in loan rates is not enough to compensate banks for the higher risk of small firm lending. Therefore, the banks are reluctant to lend to small firms. And when they do lend to small firms, they prefer the short-term loans in order to minimize risk.

Another consequence of the banking sector reform is that banks are more careful with long-term debt, as long-term debt was the main cause of the bad loan problem in the banking sector (Allen et al. (2005)). Panel C of table 5 examines firms' access to long-term debt. Private ownership increases large and medium firms', while hurts small firms' chances of having long-term debt. This finding highlights the difficulty of non-SOEs in accessing long-term financing. Unless these firms are large enough, small private firms are more likely to be shut out of long-term financing. Large economies benefit firms of different sizes, especially small firms, to access long-term borrowing. Fast-growing economies only increase the access of large and medium firms to long-term debt. This is an important finding suggesting that in net, regional economic development might hurt small firms' access to long-term financing.

Panel D presents the debt maturity regression results. State ownership in large and medium firms has no effect on debt maturity, while state ownership in small firms reduces debt maturity. Ownership by overseas Chinese lengthens small firms' debt maturity, while foreign ownership lengthens large and medium firms' maturity. The above finding suggests that due to reputation and better management, firms with foreign ownership tend to have longer debt maturity. Foreign ownership also extends debt maturity for the bottom quintile of the small firm group. Noting that these smallest firms are also most likely to be SOEs, it is not clear to us the role of foreign ownership in these firms' access to long-term loan.

Institutions matter differently across size groups. Medium and small firms in regions with more competitive banking sectors are associated with shorter debt maturity, while these same

firms in regions with better legal environments are associated with longer maturity. The first finding suggests that (as argued earlier) during the banking reform, smaller firms are more likely to be discriminated against in receiving long-term financing, while the second finding is consistent with the prior research that better legal protection is associated with long-term financing, particularly for smaller firms in the economy (Demirgüç-Kunt and Maksimovic (1999)). Interestingly, better legal environments do not significantly affect debt maturity of large firms.

Overall, our findings suggest that banks are less willing to extend long-term loans, especially to small firms, and are more likely to lend based on economic criteria. Ownership and institutional development affect firms of different sizes differently. Small firms with better developed banking systems tend to have more short-term debt. Small private firms and small firms in fast growing economies have reduced access to long-term financing than their large, non-private counterparts. Given that large firms are most likely to tax the resources of an underdeveloped financial and legal system, and they are more likely than small firms to depend on long-term financing and on large loans (Beck, Demirgüç-Kunt, and Maksimovic (2005)), our evidence suggests that large firms benefit disproportionately more from better institutions and economic development than their small counterparts.

5. Additional Investigation

Ownership Sub-samples

To further explore how ownership and governance structures affect firms' financing decisions, we group firms by ownership status into six groups: SOEs, collective-owned, HMTs, foreign-owned, shareholding companies and private enterprises, and estimate the following reduced form specification for each group:

$$\begin{aligned} \text{Leverage Measure}_{it} = & \alpha + f_t + \beta_1' \text{FIRM}_{it} \\ & + \beta_2' \text{INSTITUTION}_{it} + \beta_3 \text{GDP}_{it} + \beta_4 \text{GDP Growth}_{it} + e_{it}. \end{aligned} \quad (2)$$

Results are available upon request.¹⁵ We only discuss the role of ownership and institutional variables in capital structure decisions.

We find that firms in regions with more competitive banking sectors are associated with lower leverage except for private enterprises. SOEs in fast-growing economies are associated with lower leverage. SOEs, foreign-owned firms and shareholding companies in regions with better developed banking sector are associated with lower short-term debt, while collective-owned, HMTs, and private enterprises in regions with more competitive banking sector are associated with higher short-term debt. Firms owned by overseas Chinese are more likely to have access to long-term financing in fast-growing regions. SOEs, collective-owned, HMTs, and private enterprises in regions with better legal environment are associated with longer debt maturity. HMTs benefit from large regional economies with longer maturity.

Other Specifications

We also conduct some additional investigation beyond the main results. We begin by examining the role of other measures of legal and institutional environments on firms' financing decisions, such as the all-encompassing marketization index by Fan and Wang (2004), the deregulation measure by Démurger et al. (2002), the size of state sector by employment, and we find that our main messages remain.

Our sample includes all SOEs regardless of the size of their annual sales, and other firms with annual sales exceeding five million yuan. To make our SOE sample comparable to other

¹⁵ During the sample period, the reforms of SOEs have deepened with the conversion of SOEs into shareholding companies (corporatization without privatization as per Aivazian et al. (2005)). To make sure that our ownership sub-sample analysis is not affected by the high mobility of firms across different ownership status, we re-do our sub-group analyses focus on firms that have kept the same ownership status throughout the sample period. Our key results remain.

firms, we also estimate our leverage models by including only SOEs that meet the five million yuan cutoff and find that most of our main results stay the same.

We run collapsed cross-sectional regressions in which a firm's (time-series) average value for each variable enters the regression. Thus, there is one observation per firm in the cross-sectional regression. The shortcoming of using the collapsed version is that we sacrifice some time-variant information. Nonetheless all our basic results remain.

For robustness, we also employ panel data estimation with firm fixed effects. The within-group estimators estimate the model using deviations from the group means, while the between-group estimators estimate the model using just the time-series group means. Using fixed effect model leads to enhanced R^2 . Again, our main results remain unchanged. Finally, we run yearly cross-sectional regressions and do not find any strong time trend effect on our results.

6. Conclusions

Standard capital structure theories such as the Static Tradeoff Model and the Pecking Order Hypothesis are based on the premise that the markets for corporate loans are competitive, and hence the predictions from these theories focus on the demand side for debt financing. These models have been found to work well in developed countries and for large and listed firms in developing countries (e.g., Rajan and Zingales (1995), and Booth et al. (2001)). In this paper, we go beyond the standard theories by focusing on the role of ownership and institutions in the financial decisions of unlisted firms in an emerging country. The analyses in the paper help us answer the three questions posed in the introduction.

First, ownership and governance structures clearly matter in explaining Chinese firms' leverage choices. State ownership plays a pivotal role in firms' capital structures. Private ownership is catching up in China and it also starts to exert important influence on firms'

financing decisions. Ownership by overseas Chinese and foreigners are associated with lower leverage and longer maturity, but it does not increase firms' likelihood of getting long-term debt.

Second, the quality of institutional development has important implications on firms' financing decisions. More competitive banking sector and better legal environment reduce leverage, and better legal environment is associated with longer debt maturity. Firms in large and fast-growing economies are associated with more debt, while firms in fast-growing economies have reduced access to long-term debt.

The combination of ownership and institutional factors explains about 2 to 7 percent of the total variation in firms' leverage decisions depending on the leverage measure. In contrast, the firm-specific variables explain about 9 to 13 percent of the total variation. The current paper highlights the importance of accounting for ownership structures and different quality of the institutional framework (even within the same country) in firms' financing choices. It also points out the inadequacy of the conventional capital structure theories that fail to account for the lack of competitiveness on the supply side of the loan markets in explaining leverage choices in emerging countries.

Finally, there is some important difference among firms of different sizes in terms of their financing choices. Our evidence suggests that the current banking reforms and fast economic growth seem to adversely affect small firms' access to long-term financing. This is worrisome as the vast number of small firms is believed to be the main driver for the phenomenal growth experienced in China. Our findings in this paper thus have important policy implications.

Appendix I:

Ownership Classifications by the State Statistical Bureau (SSB) (Effective 1998)

The three-digit ownership codes are assigned by the SSB. For detailed discussion on the implication of different ownership structures, see Allen, Qian and Qian (2005, Appendix A.4)

- State-owned enterprises (SOEs): 110, 141, 151. The government is the de facto owner, and they choose managers to run the firm. Even though these firms do enter the credit plan, this process is constructed and forced by state bank, which are also under the control of the government.
- Collective-owned enterprises: 120, 130, 142. Assets are owned collectively, meaning the communities in cities or rural areas joining the ownership.
- Hong Kong, Macau, Taiwan-owned enterprises (HMTs): 210, 220, 230, 240. This group of firms includes any joint ownership by investors from Hong Kong, Macau, Taiwan and local state, collective and other investors.
- Foreign-owned enterprises: 310, 320, 330, 340. This group of firms includes any joint ownership by foreign investors other than from Hong Kong, Macau, Taiwan and local state, collective and other investors.
- Shareholding Corporation Ltd: 159, 160. These economic units have their total registered capital divided into equal shares and raised through issuing stocks. Each investor bears limited liability to the corporation depending on his/her ownership, and the corporation bears liability to its creditors to the maximum of its total assets.
- Private enterprises: 171, 172, 173, 174. This group of firms including all types of enterprises with the private investors as the primary owners.
- Other domestic enterprises: 143, 149, 190.

Appendix II:

Listed Manufacturing Firms

This table presents an overview of listed manufacturing firms during the sample period 2000-2003. LEV is measured as the ratio of total debt over total assets in percentages. STA is the ratio of short-term debt over total assets in percentages. PROB(LTD) gives the frequency of listed manufacturing firms having long-term debt. Maturity is the ratio of long-term debt over total debt in percentages. Sales is measured in 2003 US\$ thousands. We present sample medians for each year except for the percentage having LTD variable.

Year	Number of Listed Firms	LEV	STA	PROB(LTD)	Maturity	Sales
2000	404	41.2	34.5	82.2	7.0	54292
2001	498	42.5	36.6	79.5	6.3	61919
2002	695	44.7	38.2	83.0	6.6	68344
2003	727	47.0	39.6	85.1	7.7	80520

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Table A1

Variable Definitions

Leverage Measures

LEV: total debt/total assets

STA: short-term debt/total assets

LTD dummy: is set equal to one if the firm has long-term debt, and zero otherwise

Maturity: long-term debt/total debt

Firm Characteristics

Firm size: log of annual sales

Firm maturity: log of firm age

Profitability: earnings before tax divided by total assets

Asset tangibility: total fixed assets divided by total assets

Depreciation: depreciation charges (proxy for non-debt tax shields) divided by total assets

SGA expenses: selling and general administration expenses (proxy for product uniqueness) divided by total sales

New product: new product sales (proxy for intangible assets) divided by total sales

Industry median: median leverage measure by 2-digit SIC code and by year

Industry concentration: Herfindahl index using firm sales

Ownership Measures

State ownership: proportional contribution to firms' paid-in-capital by the state

Private ownership: proportional contribution to firms' paid-in-capital by private investors

HMT ownership: proportional contribution to firms' paid-in-capital by private investors from Hong Kong, Macau, and Taiwan

Foreign ownership: proportional contribution to firms' paid-in-capital by foreign investors

Institutional Measures

Banking development index: based on information from Fan and Wang (2004), capturing (1) the competitiveness of the banking sector as measured by the ratio of deposits held by non-stated owned financial institutions to the total deposits in the economy; and (2) the extent to which the banks employ economic criteria in their capital allocation as measured by the fraction of short-term loans to the non-state sector (such as agricultural loans, loans to village/township enterprises, loans to private enterprises, and loans to foreign-owned enterprises) over the total amount of short-term loans in the economy.

Legal environment index: based on information from Fan and Wang (2004), capturing (1) the development of market intermediaries using the ratio of the number of lawyers and registered accountants to population; (2) protection of the legal rights of producers using the frequency of economic crimes normalized by GDP; (3) protection of property rights using the average number of patents applied per engineer and the average number of

patents approved per engineer; and (3) protection of consumers using the number of consumer complaints received by the Consumer Association.

Marketization index: from Fan and Wang (2004), a comprehensive index that captures the regional market development of the following aspects: (1) the relationship between the government and the market, including the role of the market in allocating resources, the level of taxes of rural residents, the role of the government in business, the level of non-tax levies on enterprises, and the size of the government; (2) the development of the non-state sector in the economy, including the ratio of industrial output by private sector to total industrial output, the ratio of investment in fixed assets by private sector to total capital investment, and the ratio of employment by private sector to total employment; (3) the development of the product market, including the extent to which the price is set by the market demand and supply, and the extent of the regional trade barrier; (4) the development of the factor markets, including banking development, foreign direct investment (FDI), labor mobility, and commercialization of technological innovation; and (5) the development of market intermediaries and legal environment, including the ratio of the number of lawyers and registered accountants to population, protection of the legal rights of producers, protection of property rights, and protection of consumers.

Deregulation index: from Démurger et al. (2002), based on the amount of preferential treatments granted to the different provinces by central government to set up special economic zones from 1978 to 1998. It captures the extent to which the province had exempted the establishment of foreign-funded enterprises (FIEs), the profits of FIEs, the international trade transactions of FIEs, and the domestic operations of the FIEs from the restrictive state regulations governing the enterprise sector, particularly the foreign enterprise sector.

GDP: regional GDP in US\$ 100 millions

GDP growth: year-to-year growth in GDP in percentages

State sector: the ratio of employment by the state-owned enterprises to the overall employment within a region

Table 1
Sample Overview

Our sample contains the population of manufacturing firms tracked by the SSB for the period 2000-2003. There are seven types of ownership status among Chinese firms: state-owned enterprises (SOEs), collective-owned enterprises, Hong Kong, Macau, and Taiwan-owned enterprises (HMTs), foreign-owned enterprises, shareholding corporations, private enterprises, and others. There are three firm size categories: large, medium, and small. We further divide the small size category into five groups according to sales quintiles. Number of observations gives the number of firm-year observations of each category in our sample. Sales gives the median level of annual sales by firms in the same category during the sample period (in 2003 US\$ thousands). ROA gives the median operating performance in percentages. State ownership gives the average percentage holdings by the state of firms in the same category.

Panel A. Sample Distribution by Ownership Status

Year	SOEs	Collective-owned	HMTs	Foreign-owned	Shareholding Corporations	Private enterprises	Others	All
2000	4.8	7.2	2.5	1.8	2.5	3.3	0.3	22.4
2001	3.8	6.1	2.8	2.0	3.4	5.5	0.2	23.8
2002	3.3	5.4	3.0	2.3	4.0	7.4	0.2	25.6
2003	2.5	4.6	3.3	2.7	4.6	10.3	0.2	28.2
All	14.5	23.3	11.6	8.9	14.4	26.5	0.9	100.0

Panel B. Summary Statistics of Firms in Different Ownership Status

Ownership	Number of Observations	Sales	ROA	State ownership
SOEs	91113	790	0.3	82.8
Collective-owned	146850	1503	4.8	2.2
HMTs	73157	2589	2.6	4.0
Foreign-owned	55889	3217	4.1	4.8
Shareholding Corporations	90651	2345	3.2	11.9
Private enterprises	166651	1523	5.3	0.4
Others	5584	1817	3.1	14.8
All	629895	1969	3.3	17.3

Panel C. Sample Distribution by Firm Size

Year	SSB Size Classification			All
	Large	Medium	Small	
2000	1.1	1.9	19.4	22.4
2001	1.2	2.0	20.6	23.8
2002	1.2	2.1	22.3	25.6
2003	0.3	3.1	24.9	28.2
All	3.7	9.1	87.2	100.0

Panel D. Summary Statistics of Firms in Different Size Groups

Size Classification	Number of Observations	Sales	ROA	State ownership
Large	23516	19345	2.7	39.0
Medium	57096	7222	2.7	28.2
Small	549283	1481	3.6	12.9
Small Quintile				
5	109855	6439	6.6	6.2
4	109861	2629	4.9	7.3
3	109859	1481	3.9	7.8
2	109856	889	3.2	8.2
1	109852	388	0.6	35.2

Table 2
Summary Statistics

Our sample contains the population of manufacturing firms tracked by the SSB for the period 2000-2003. This table presents descriptive statistics of capital structure variables. LEV is measured as the ratio of total debt over total assets in percentages. STA is the ratio of short-term debt over total assets in percentage. LTD dummy is set equal to one if the firm has long-term debt, and zero otherwise. PROB(LTD) gives the frequency of sample firms having long-term debt. Maturity is the ratio of long-term debt over total debt in percentages. Panel A presents correlation matrices of our four capital structure measures for the full sample, and for two leverage ratios and debt maturity for the sub-sample of firms having long-term debt. Panels B-D present summary statistics of capital structure measures by year, ownership status, and size, respectively.

Panel A. Correlation

Full sample			
Number of Observations = 629895			
	LEV	STA	LTD Dummy
STA	0.847		
LTD Dummy	0.205	-0.115	
Maturity	0.082	-0.401	0.647

Sub-sample (LTD Dummy =1)		
Number of Observations =256309		
	LEV	STA
STA	0.756	
Maturity	-0.104	-0.662

Panel B. Capital Structure by Year

	Year	Number of Observations	Mean	Median	5 th Pct.	95 th Pct.	Std. Dev.
LEV							
	2000	141299	65.1	64.9	14.7	115.4	31.5
	2001	149655	62.6	62.5	12.8	110.7	31.0
	2002	161273	60.8	60.8	11.8	106.7	30.4
	2003	177668	59.1	59.6	10.9	101.4	29.4
	All	629895	61.7	61.8	12.3	108.3	30.6
STA							
	2000	141299	55.5	54.5	8.0	102.4	30.3
	2001	149655	53.9	53.0	6.6	100.0	30.0
	2002	161273	53.0	52.3	6.1	98.5	29.6
	2003	177668	52.2	51.8	6.3	96.4	28.7
	All	629895	53.6	52.8	6.6	99.2	29.6
PROB(LTD)							
	2000	141299	40.7				
	2001	149655	47.5				
	2002	161273	42.4				
	2003	177668	38.6				
	All	629895	42.1				
Maturity							
	2000	67099	28.7	21.5	0.7	85.9	26.0
	2001	63484	30.3	22.7	0.7	92.5	27.2
	2002	62180	30.7	22.6	0.7	96.7	27.9
	2003	63546	30.2	22.2	0.6	93.1	27.7
	All	256309	30.0	22.3	0.7	92.1	27.2

Panel C. Capital Structure by Ownership Status

	Ownership	Number of Observations	Mean	Median	5 th Pct.	95 th Pct.	Std. Dev.
LEV							
	SOEs	91113	77.2	75.3	19.3	155.6	36.9
	Collective-owned	146850	62.8	63.3	13.1	107.0	30.0
	HMTs	73157	54.1	53.7	9.1	97.0	28.5
	Foreign-owned	55889	52.6	51.7	9.7	96.6	28.1
	Shareholding Corp.	90651	63.3	64.1	17.5	101.5	27.1
	Private enterprises	166651	58.0	59.6	10.8	96.4	27.4
	Others	5584	59.1	58.8	10.8	104.0	30.1
STA							
	SOEs	91113	62.5	59.2	9.8	134.8	35.0
	Collective-owned	146850	53.9	53.9	6.0	98.8	29.6
	HMTs	73157	49.7	48.9	5.7	93.7	28.1
	Foreign-owned	55889	47.8	46.2	6.6	92.9	27.5
	Shareholding Corp.	90651	54.3	53.6	10.6	96.2	26.9
	Private enterprises	166651	51.7	52.3	5.0	93.5	28.0
	Others	5584	51.4	50.7	6.0	96.4	29.0
PROB(LTD)							
	SOEs	91113	63.7				
	Collective-owned	146850	44.9				
	HMTs	73157	24.0				
	Foreign-owned	55889	26.7				
	Shareholding Corp.	90651	49.6				
	Private enterprises	166651	31.7				
	Others	5584	37.2				
Maturity							
	SOEs	57993	27.8	20.8	0.9	82.2	25.1
	Collective-owned	65980	30.3	22.5	0.6	92.8	27.5
	HMTs	17548	30.2	21.2	0.3	99.7	29.4
	Foreign-owned	14904	30.1	22.1	0.3	90.7	27.8
	Shareholding Corp.	44997	26.8	19.9	0.6	79.2	24.7
	Private enterprises	52811	34.3	26.8	0.9	100.0	29.3
	Others	2076	31.5	23.4	0.5	100.0	28.6

Panel D. Capital Structure by Size

	Size	Number of Observations	Mean	Median	5 th Pct.	95 th Pct.	Std. Dev.
LEV							
	Large	23516	63.6	63.0	20.7	107.4	27.4
	Medium	57096	67.0	66.3	21.1	115.1	29.0
	Small	549283	61.1	61.1	11.6	107.6	30.8
	Small Quintile						
	5	109855	58.0	58.7	12.8	96.3	26.4
	4	109861	59.9	60.7	12.9	99.9	28.3
	3	109859	60.7	61.5	11.8	102.1	29.5
	2	109856	60.4	60.8	10.9	105.7	30.7
	1	109852	66.6	65.5	9.8	139.0	37.4
STA							
	Large	23516	49.8	47.7	13.8	91.4	24.6
	Medium	57096	55.4	53.9	14.0	99.0	27.0
	Small	549283	53.5	53.0	5.9	99.4	30.0
	Small Quintile						
	5	109855	51.3	51.4	7.1	92.9	26.6
	4	109861	52.9	53.0	7.0	95.4	28.1
	3	109859	53.7	53.9	6.5	96.9	29.0
	2	109856	53.3	52.9	5.8	99.1	30.1
	1	109852	56.4	54.3	3.7	122.9	35.5
PROB(LTD)							
	Large	23516	76.3				
	Medium	57096	63.9				
	Small	549283	36.7				
	Small Quintile						
	5	109855	38.4				
	4	109861	36.0				
	3	109859	34.4				
	2	109856	33.6				
	1	109852	41.4				
Maturity							
	Large	17942	25.9	21.3	0.9	67.3	21.2
	Medium	36511	24.6	18.7	0.5	69.9	22.2
	Small	201856	31.3	23.2	0.7	98.2	28.3
	Small Quintile						
	5	42181	28.9	21.0	0.4	91.3	27.2
	4	39541	30.6	22.8	0.6	94.4	27.8
	3	37770	31.0	23.2	0.7	95.9	28.0
	2	36909	32.3	24.3	0.8	100.0	28.8
	1	45455	33.5	25.0	1.0	100.0	29.5

Table 3
Correlation between Ownership and Institutional Variables

Our sample contains the population of manufacturing firms tracked by the SSB for the period 2000-2003. This table presents the correlation matrix of ownership and institutional variables. The continuous ownership measures are based on the fraction of paid-in-capital contributed by different investors, such as the state, individuals, or foreigners. The marketization index captures the regional market development. The banking development index captures the extent of competition in the banking sector and the extent to which the banks employ economic criteria in their capital allocation. The legal environment index measures the development of market intermediaries, and protection of property rights, copyrights and consumers. All these three indices are based on Fan and Wang (2004). The Fan and Wang data is available for 1998-1999 and 2001-2002. We use the average of the 1999 and 2001 indices for our firms in 2000, and use the values of 2002 indices for our firms in year 2002 and year 2003. GDP is in 2003 US\$ 100 millions. GDP growth gives the annual growth rate of GDP in percentages. State sector gives the percentage of labor force employed by the state sector in each region. The deregulation index is from Démurger et al. (2002) constructed based on the amount of preferential treatments granted to the province by central government to set up special economic zones from 1978 to 1998. Given the large sample size, all correlations are significant therefore we omit the significant levels.

	State ownership	Private ownership	HMT Ownership	Foreign ownership	Marketization	Banking development	Legal environment	GDP	GDP growth	State sector
Private ownership	-0.311									
HMT ownership	-0.123	-0.227								
Foreign ownership	-0.107	-0.206	-0.092							
Marketization	-0.300	0.133	0.255	0.116						
Banking development	-0.288	0.185	0.132	0.093	0.847					
Legal environment	-0.198	-0.001	0.242	0.132	0.785	0.531				
GDP	-0.283	0.165	0.142	0.061	0.726	0.657	0.417			
GDP growth	-0.155	0.174	0.009	0.0318	0.368	0.387	0.283	0.332		
State sector	0.290	-0.151	-0.205	-0.110	-0.883	-0.767	-0.738	-0.567	-0.439	
Deregulation	-0.215	-0.030	0.343	0.126	0.833	0.600	0.658	0.561	0.163	-0.651

Table 4
Determinants of Capital Structure

Our sample contains the population of manufacturing firms tracked by the SSB for the period 2000-2003. This table reports results from regressions of capital structure variables on firm characteristics, ownership structures, and institutional variables. LEV is measured as the ratio of total debt over total assets in percentages. STA is the ratio of short-term debt over total assets in percentage. LTD dummy is set equal to one if the firm has long-term debt, and zero otherwise. Maturity is the ratio of long-term debt over total debt in percentages. Year dummies are included in each regression but not reported. Our panel data estimation accounts for possible correlation within a (firm) cluster. The t-statistics are reported below the coefficients in parentheses.

Panel A. Total Debt

Dependent Variable: LEV			Firm	Ownership		
	Full specification		characteristics only	variables only	Institutional variables only	
<u>Firm Characteristics</u>						
Firm size	0.198 (4.46)	0.191 (4.33)	-0.647 (-14.83)			
Firm maturity	3.342 (55.56)	3.235 (53.89)	4.796 (81.14)			
Profitability	-0.637 (-146.75)	-0.647 (-149.25)	-0.630 (-144.83)			
Asset tangibility	-0.182 (-64.86)	-0.193 (-69.00)	-0.152 (-54.29)			
Depreciation	-0.289 (-14.87)	-0.259 (-13.39)	-0.521 (-26.22)			
SGA expenses	-0.055 (-5.57)	-0.051 (-5.16)	-0.078 (-8.01)			
New product	-0.055 (-15.35)	-0.055 (-15.52)	-0.037 (-10.47)			
Industry median	0.533 (31.90)	0.476 (28.53)	0.791 (46.93)			
Industry concentration	-1.117 (-8.05)	-1.098 (-7.95)	-0.499 (-3.60)			
<u>Ownership Structures</u>						
State ownership	0.090 (41.46)	0.089 (41.59)		0.154 (71.21)		
Private ownership	0.010 (8.58)	0.003 (2.82)		-0.003 (-2.10)		
HMT ownership	-0.123 (-54.82)	-0.106 (-47.01)		-0.107 (-46.61)		
Foreign ownership	-0.108 (-43.85)	-0.100 (-40.75)		-0.116 (-45.06)		
<u>Institutional Factors</u>						
Banking development	-0.744 (-17.19)				-1.425 (-31.28)	
Legal environment		-1.411 (-44.94)				-1.633 (-49.59)
GDP	2.635 (21.58)	2.682 (26.14)			0.979 (7.52)	0.252 (2.34)
GDP growth	0.256 (12.74)	0.294 (15.75)			0.351 (16.02)	0.231 (11.38)
Number of observations	613068	613068	626042	623953	622666	622666
Adjusted/Pseudo R ²	0.1587	0.1641	0.1320	0.0558	0.0093	0.0154

Panel B. Short-term Debt

Dependent Variable: STA			Firm characteristics only	Ownership variables only		
	Full specification				Institutional variables only	
<u>Firm Characteristics</u>						
Firm size	-0.158 (-3.79)	-0.177 (-4.26)	-0.570 (-13.95)			
Firm maturity	2.258 (39.03)	2.190 (37.94)	2.954 (52.71)			
Profitability	-0.572 (-139.99)	-0.578 (-141.64)	-0.560 (-138.49)			
Asset tangibility	-0.285 (-108.17)	-0.299 (-113.56)	-0.275 (-105.63)			
Depreciation	-0.100 (-5.48)	-0.058 (-3.16)	-0.210 (-11.37)			
SGA expenses	-0.110 (-11.84)	-0.119 (-12.80)	-0.168 (-18.26)			
New product	-0.062 (-18.16)	-0.061 (-17.79)	-0.051 (-15.17)			
Industry median	0.398 (26.59)	0.407 (27.33)	0.462 (30.92)			
Industry concentration	-0.607 (-4.61)	-0.595 (-4.54)	-0.364 (-2.78)			
<u>Ownership Structures</u>						
State ownership	0.059 (29.48)	0.056 (28.21)		0.093 (45.90)		
Private ownership	0.020 (16.99)	0.018 (15.06)		0.020 (16.22)		
HMT ownership	-0.086 (-39.88)	-0.070 (-32.09)		-0.051 (-22.63)		
Foreign ownership	-0.077 (-32.93)	-0.067 (-28.61)		-0.067 (-26.98)		
<u>Institutional Factors</u>						
Banking development	0.224 (5.33)				0.291 (6.68)	
Legal environment		-0.993 (-33.07)				-0.762 (-24.19)
GDP	1.496 (12.91)	2.664 (27.43)			0.041 (0.33)	1.268 (12.60)
GDP growth	0.382 (19.82)	0.594 (32.93)			0.461 (22.08)	0.658 (33.93)
Number of observations	613068	613068	626042	623953	622666	622666
Adjusted/Pseudo R ²	0.1412	0.1445	0.1233	0.0198	0.0043	0.0063

Panel C. Probability of Having Long-term Debt

Dependent Variable: LTD Dummy			Firm characteristics only	Ownership variables only		
	Full specification				Institutional variables only	
<u>Firm Characteristics</u>						
Firm size	0.157 (81.80)	0.157 (81.65)	0.104 (57.77)			
Firm maturity	0.256 (90.89)	0.249 (88.42)	0.320 (121.38)			
Profitability	-0.622 (-32.87)	-0.669 (-35.19)	-0.566 (-30.44)			
Asset tangibility	0.755 (65.07)	0.744 (63.93)	0.909 (80.79)			
Depreciation	-1.655 (-20.51)	-1.682 (-20.74)	-3.109 (-38.47)			
SGA expenses	1.030 (25.13)	1.156 (28.17)	1.126 (28.20)			
New product	0.343 (18.85)	0.330 (18.22)	0.406 (22.54)			
Industry median	1.080 (32.13)	1.075 (32.05)	1.986 (61.91)			
Industry concentration	-4.184 (-6.44)	-4.259 (-6.57)	-1.628 (-2.60)			
<u>Ownership Structures</u>						
State ownership	0.272 (32.08)	0.290 (34.14)		0.521 (67.44)		
Private ownership	-0.045 (-7.71)	-0.101 (-17.30)		-0.230 (-41.04)		
HMT ownership	-0.623 (-55.00)	-0.563 (-49.17)		-0.755 (-70.24)		
Foreign ownership	-0.507 (-40.95)	-0.498 (-40.26)		-0.597 (-50.74)		
<u>Institutional Factors</u>						
Banking development	-0.100 (-48.25)				-0.153 (-77.37)	
Legal environment		-0.073 (-49.29)				-0.110 (-76.49)
GDP	0.113 (20.69)	0.019 (4.30)			0.108 (20.39)	-0.039 (-9.01)
GDP growth	-0.667 (-7.33)	-1.934 (-22.05)			-0.326 (-3.72)	-2.513 (-29.78)
Number of observations	613068	613068	626042	623953	622666	622666
Adjusted/Pseudo R ²	0.1164	0.1171	0.0882	0.0496	0.0336	0.0352

Panel D. Debt Maturity

Dependent Variable: Maturity			Firm characteristics only	Ownership variables only		
	Full specification				Institutional variables only	
<u>Firm Characteristics</u>						
Firm size	-1.671 (-34.68)	-1.686 (-35.00)	-1.801 (-38.49)			
Firm maturity	-3.695 (-48.19)	-3.675 (-47.90)	-3.659 (-51.87)			
Profitability	0.226 (36.54)	0.242 (39.07)	0.238 (38.97)			
Asset tangibility	0.234 (62.19)	0.244 (64.86)	0.238 (64.48)			
Depreciation	-0.229 (-9.08)	-0.271 (-10.76)	-0.295 (-11.76)			
SGA expenses	-0.006 (-0.52)	0.016 (1.38)	0.043 (3.85)			
New product	-0.004 (-0.97)	-0.008 (-1.83)	-0.009 (-2.20)			
Industry median	0.395 (24.19)	0.438 (26.81)	0.463 (28.48)			
Industry concentration	0.216 (1.27)	0.224 (1.32)	0.373 (2.22)			
<u>Ownership Structures</u>						
State ownership	-0.023 (-10.95)	-0.018 (-8.80)		-0.033 (-16.45)		
Private ownership	-0.023 (-12.80)	-0.026 (-14.58)		-0.020 (-10.67)		
HMT ownership	0.027 (6.31)	0.010 (2.22)		0.002 (0.34)		
Foreign ownership	0.012 (2.95)	-0.003 (-0.60)		-0.008 (-1.80)		
<u>Institutional Factors</u>						
Banking development	-1.480 (-25.20)				-2.037 (-34.49)	
Legal environment		0.547 (12.18)				0.145 (3.17)
GDP	2.000 (13.00)	-0.878 (-7.06)			2.407 (15.14)	-1.216 (-9.62)
GDP growth	-0.300 (-11.53)	-0.709 (-28.50)			-0.376 (-13.68)	-0.880 (-33.57)
Number of observations	247754	247754	254449	252956	252866	252866
Adjusted/Pseudo R ²	0.1001	0.0973	0.0879	0.0029	0.0175	0.0096

Table 5
Determinants of Capital Structure, Grouped by Firm Size

Our sample contains the population of manufacturing firms tracked by the SSB for the period 2000-2003. This table reports results from regressions of capital structure variables on firm characteristics, ownership structures, and institutional variables, grouped by size. There are three firm size categories: large, medium, and small. We further divide the small size category into five groups according to sales quintiles. LEV is measured as the ratio of total debt over total assets in percentages. STA is the ratio of short-term debt over total assets in percentage. LTD dummy is set equal to one if the firm has long-term debt, and zero otherwise. Maturity is the ratio of long-term debt over total debt in percentages. Year dummies are included in each regression but not reported. Our panel data estimation accounts for possible correlation within a (firm) cluster. The t-statistics are reported below the coefficients in parentheses.

Panel A. Total Debt

Dependent Variable: Lev												
	Large		Medium		Small		Small					
							Quintile 5		Quintile 3		Quintile 1	
<u>Ownership Structures</u>												
State ownership	0.050 (7.93)	0.043 (6.91)	0.073 (15.08)	0.072 (14.84)	0.100 (39.76)	0.101 (40.37)	0.079 (13.86)	0.078 (13.70)	0.078 (14.74)	0.077 (14.56)	0.080 (18.88)	0.088 (20.84)
Private ownership	0.027 (2.94)	0.017 (1.85)	0.046 (11.27)	0.039 (9.50)	0.009 (6.95)	0.002 (1.55)	0.009 (3.72)	0.006 (2.31)	0.011 (4.70)	0.005 (1.97)	0.005 (1.48)	-0.005 (-1.62)
HMT ownership	-0.087 (-7.65)	-0.077 (-6.70)	-0.113 (-19.08)	-0.095 (-15.50)	-0.126 (-53.53)	-0.109 (-46.10)	-0.107 (-29.42)	-0.094 (-25.46)	-0.135 (-29.24)	-0.119 (-25.78)	-0.152 (-19.85)	-0.134 (-17.51)
Foreign ownership	-0.052 (-5.21)	-0.046 (-4.60)	-0.107 (-17.32)	-0.097 (-15.56)	-0.112 (-42.49)	-0.105 (-39.94)	-0.094 (-24.22)	-0.087 (-22.57)	-0.134 (-25.26)	-0.128 (-24.21)	-0.130 (-14.12)	-0.127 (-13.89)
<u>Institutional Factors</u>												
Banking development	-0.736 (-3.81)		-1.088 (-8.61)		-0.700 (-15.25)		-0.331 (-3.81)		-0.577 (-6.75)		-1.474 (-12.69)	
Legal environment	-1.038 (-7.52)		-1.381 (-15.26)		-1.444 (-43.58)		-1.015 (-16.65)		-1.335 (-21.67)		-2.152 (-24.77)	
GDP	3.030 (6.15)	2.578 (6.45)	2.643 (8.05)	2.138 (7.86)	2.565 (19.71)	2.722 (24.78)	1.624 (6.61)	1.972 (9.30)	0.890 (3.71)	1.170 (5.68)	6.561 (22.37)	6.088 (26.89)
GDP growth	0.242 (2.64)	0.330 (3.68)	0.329 (6.14)	0.267 (5.42)	0.241 (11.13)	0.294 (14.73)	0.417 (9.56)	0.451 (11.08)	0.250 (5.53)	0.298 (7.29)	0.035 (0.73)	0.130 (2.94)
Number of observations	22912	22912	55500	55500	534656	534656	108118	108118	107483	107483	104070	104070
Adjusted/Pseudo R ²	0.1989	0.2022	0.2049	0.2093	0.1550	0.1608	0.1444	0.1484	0.1567	0.1622	0.1666	0.1738

Panel B. Short-term Debt

Dependent Variable: STA												
	Large		Medium		Small		Small					
							Quintile 5		Quintile 3		Quintile 1	
<u>Ownership Structures</u>												
State ownership	0.028 (4.95)	0.025 (4.50)	0.042 (9.26)	0.040 (8.76)	0.075 (31.74)	0.073 (31.07)	0.054 (9.91)	0.050 (9.21)	0.056 (11.17)	0.052 (10.45)	0.062 (15.62)	0.066 (16.69)
Private ownership	0.030 (3.44)	0.026 (2.95)	0.043 (10.65)	0.037 (9.25)	0.018 (14.90)	0.016 (13.42)	0.016 (6.19)	0.016 (6.28)	0.020 (8.46)	0.019 (7.96)	0.018 (5.77)	0.013 (4.17)
HMT ownership	-0.014 (-1.33)	-0.010 (-0.94)	-0.062 (-11.20)	-0.046 (-8.08)	-0.093 (-40.62)	-0.076 (-33.05)	-0.076 (-21.25)	-0.062 (-16.95)	-0.098 (-22.03)	-0.083 (-18.50)	-0.121 (-16.55)	-0.104 (-14.29)
Foreign ownership	-0.002 (-0.24)	0.000 (-0.01)	-0.070 (-12.09)	-0.060 (-10.28)	-0.083 (-32.70)	-0.073 (-28.92)	-0.068 (-18.27)	-0.059 (-15.66)	-0.101 (-19.56)	-0.092 (-17.92)	-0.094 (-10.85)	-0.089 (-10.33)
<u>Institutional Factors</u>												
Banking development	-0.395 (-2.25)		-0.553 (-4.55)		0.315 (7.04)		0.567 (6.61)		0.450 (5.38)		-0.414 (-3.78)	
Legal environment		-0.437 (-3.55)		-1.041 (-12.44)		-1.030 (-32.24)		-0.768 (-12.81)		-0.913 (-15.14)		-1.518 (-18.56)
GDP	2.181 (4.81)	1.870 (5.07)	2.351 (7.58)	2.374 (9.33)	1.314 (10.59)	2.665 (25.46)	0.540 (2.26)	1.923 (9.27)	-0.055 (-0.24)	1.405 (7.11)	4.984 (18.28)	5.676 (26.87)
GDP growth	0.182 (2.19)	0.203 (2.47)	0.335 (6.52)	0.346 (7.28)	0.389 (18.68)	0.633 (32.69)	0.541 (12.39)	0.788 (19.29)	0.404 (9.22)	0.666 (16.61)	0.220 (4.82)	0.420 (9.98)
Number of observations	22912	22912	55500	55500	534656	534656	108118	108118	107483	107483	104070	104070
Adjusted/Pseudo R ²	0.1581	0.1587	0.1450	0.1486	0.1438	0.1472	0.1478	0.1496	0.1540	0.1565	0.1451	0.1501

Panel C. Probability of Having Long-term Debt

Dependent Variable: LTD Dummy												
	Large		Medium		Small		Small					
							Quintile 5		Quintile 3		Quintile 1	
<u>Ownership Structures</u>												
State ownership	0.280 (7.10)	0.246 (6.16)	0.269 (11.41)	0.260 (11.03)	0.181 (19.41)	0.203 (21.74)	0.142 (5.84)	0.152 (6.24)	0.170 (8.05)	0.185 (8.75)	0.115 (7.75)	0.155 (10.43)
Private ownership	0.115 (1.83)	0.044 (0.70)	0.109 (4.92)	0.069 (3.13)	-0.046 (-7.64)	-0.102 (-16.96)	-0.003 (-0.26)	-0.045 (-3.42)	-0.025 (-2.09)	-0.090 (-7.62)	-0.087 (-6.54)	-0.134 (-10.09)
HMT ownership	-1.059 (-17.39)	-1.006 (-16.43)	-0.855 (-26.66)	-0.762 (-23.31)	-0.566 (-48.02)	-0.510 (-42.77)	-0.559 (-27.68)	-0.505 (-24.65)	-0.590 (-24.82)	-0.534 (-22.20)	-0.524 (-14.60)	-0.478 (-13.23)
Foreign ownership	-1.015 (-19.92)	-0.999 (-19.56)	-0.705 (-21.97)	-0.656 (-20.31)	-0.444 (-33.93)	-0.441 (-33.72)	-0.469 (-21.90)	-0.460 (-21.45)	-0.419 (-15.41)	-0.420 (-15.41)	-0.481 (-11.78)	-0.485 (-11.90)
<u>Institutional Factors</u>												
Banking development	-0.086 (-7.73)		-0.052 (-7.89)		-0.101 (-46.28)		-0.074 (-15.96)		-0.110 (-25.51)		-0.103 (-23.05)	
Legal environment		-0.076 (-10.59)		-0.071 (-16.02)		-0.071 (-46.01)		-0.061 (-19.04)		-0.075 (-24.13)		-0.082 (-24.53)
GDP	0.090 (3.20)	0.017 (0.74)	0.022 (1.35)	0.003 (0.21)	0.128 (22.19)	0.031 (6.63)	0.107 (8.67)	0.053 (4.95)	0.130 (11.25)	0.023 (2.42)	0.133 (12.17)	0.037 (4.37)
GDP growth	1.302 (2.11)	1.363 (2.27)	0.563 (1.97)	0.282 (1.07)	-0.914 (-9.56)	-2.242 (-24.31)	-0.523 (-2.28)	-1.747 (-8.00)	-0.878 (-4.13)	-2.596 (-12.94)	-1.894 (-10.33)	-2.441 (-13.90)
Number of observations	22912	22912	55500	55500	534656	534656	108118	108118	107483	107483	104070	104070
Adjusted/Pseudo R ²	0.2163	0.2194	0.1403	0.1448	0.0853	0.0856	0.0705	0.0719	0.0896	0.0894	0.0929	0.0944

Panel D. Debt Maturity

Dependent Variable: Maturity												
	Large		Medium		Small		Small					
							Quintile 5		Quintile 3		Quintile 1	
<u>Ownership Structures</u>												
State ownership	0.004 (0.83)	0.003 (0.53)	0.004 (0.94)	0.007 (1.69)	-0.034 (-13.36)	-0.031 (-12.04)	-0.021 (-3.37)	-0.015 (-2.39)	-0.027 (-4.91)	-0.022 (-4.03)	-0.028 (-6.27)	-0.026 (-5.95)
Private ownership	-0.017 (-1.91)	-0.019 (-2.11)	-0.012 (-2.80)	-0.011 (-2.55)	-0.025 (-12.59)	-0.029 (-15.05)	-0.015 (-3.84)	-0.023 (-5.87)	-0.028 (-6.97)	-0.031 (-7.90)	-0.023 (-4.78)	-0.026 (-5.39)
HMT ownership	-0.003 (-0.22)	-0.001 (-0.06)	0.018 (1.87)	0.010 (1.01)	0.034 (7.09)	0.013 (2.71)	0.042 (5.59)	0.020 (2.65)	0.031 (3.00)	0.009 (0.82)	0.047 (2.69)	0.034 (1.94)
Foreign ownership	0.042 (3.56)	0.044 (3.67)	0.027 (3.14)	0.021 (2.36)	0.010 (2.09)	-0.008 (-1.59)	0.010 (1.47)	-0.008 (-1.16)	0.006 (0.55)	-0.012 (-1.09)	0.046 (2.38)	0.034 (1.77)
<u>Institutional Factors</u>												
Banking development	-0.037 (-0.21)		-0.586 (-4.61)		-1.792 (-26.81)		-2.168 (-16.92)		-1.586 (-11.57)		-1.468 (-9.77)	
Legal environment		-0.183 (-1.52)		0.262 (2.71)		0.673 (13.06)		0.575 (5.87)		0.846 (7.92)		0.446 (3.81)
GDP	-0.084 (-0.18)	-0.046 (-0.13)	0.246 (0.78)	-0.868 (-3.43)	2.500 (14.22)	-1.071 (-7.43)	3.363 (9.39)	-0.512 (-1.69)	2.812 (7.66)	-0.637 (-2.15)	0.403 (1.15)	-2.422 (-8.88)
GDP growth	0.019 (0.24)	0.054 (0.67)	-0.116 (-2.20)	-0.272 (-5.45)	-0.322 (-10.66)	-0.826 (-28.87)	-0.558 (-7.99)	-1.219 (-18.71)	-0.436 (-6.60)	-0.946 (-15.29)	-0.018 (-0.30)	-0.340 (-6.08)
Number of observations	17442	17442	35409	35409	194903	194903	41408	41408	36720	36720	42445	42445
Adjusted/Pseudo R ²	0.1433	0.1436	0.0875	0.0869	0.0969	0.0932	0.0984	0.0911	0.1033	0.1015	0.0940	0.0915