

Bank Lending, Corporate Governance, and Government Ownership in China

Lihui Tian*

Peking University

Examining the capital structures of 1252 firms publicly listed on China's stock market, we show the effect of corporate borrowing on managerial agency costs. In contrast to the finance theories that debt financing helps to improve the quality of corporate governance, we find that an increase of bank loans increases the size of managerial perks and free cash flows, and that it decreases corporate value in the firms with the government as a large shareholder. When both the creditors and debtors are owned by the government, bank lending facilitates managerial exploitation of corporate wealth. The institutional arrangement of shared government ownership brings about the failure of corporate governance and the accumulations of bad loans in China.

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* “George” Lihui Tian, Guanghua School of Management, Peking University, Beijing 100871, China. tian@gsm.pku.edu.cn Phone: 86 10 62757900

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With the recent comments from Michael Brennan, a new version of this paper is forthcoming.

1. Introduction

Debt financing is argued to discipline corporate managers.¹ Jensen and Meckling (1976) and Dewatripont and Tirole (1994) argue that debt keeps a tight rein on managerial agency costs. The governance role of debt comes from the threat of bankruptcy, the reduction of free cash flows, and due diligence monitoring by creditors.

First, a high financial leverage is associated with a high probability of financial distress which causes managerial replacements. Aghion and Bolton (1992) model the shift of control to debt holders when profits are low. Gilson (1990) argues that creditors take over the dominant role in disciplining the managers, when firms are in financial distress. The empowered creditors tend to replace incumbent managers that were assigned by the shareholders.² Debt also has an incentive effect on shareholders' monitoring efforts, because the shift of control to creditors drives out the private benefits of the controlling shareholder. With a sample of British firms, Franks *et al.* (2002) find that the turnover frequency of board-members is higher with a higher financial leverage.³

Secondly, Grossman and Hart (1982) and Jensen (1986) argue that debt carves out free cash flows⁴ and reduces managerial agency costs. Under the separation of ownership and control, the managers are reluctant to distribute the cash flows to shareholders, but

¹ This view is accepted by practitioners. For instance, Financial Times quoted Jonathan Meggs, a partner of JP Morgan, "...leverage is a financial discipline" on June 14th, 2001.

² If being laid off due to exploiting corporate wealth, the managers are punished with the reputation effect in the managerial labor market (Fama and Jensen 1983a, b).

³ Harris and Raviv (1988) and Stulz (1988) argue that with an increase of leverages, the voting rights of outsiders are reduced and the voting rights of the insiders increase. The managers are therefore prone to entrenchment. However, the average voting rights of the management teams in China's PLCs were as small as 0.005% of the total shares. The Stulz leverage impact is not expected to be influential in the Chinese context. Therefore, the classical corporate finance theory should follow the governance hypothesis. Friend and Lang (1988) and Berger *et al.* (1997) provide empirical evidence that financial leverages are negatively correlated to managerial entrenchment in developed economies.

⁴ Free cash flow is cash flow that remains after the firm has completed its positive net present value (NPV) projects.

prone to overinvestment. Overexpanding corporate operations or “empire-building” fits the interests of managers at the cost of shareholders. With the legal bidding of the repayment of interests and loan principal, debt functions to force out cash flows. Moreover, through an indenture and the availability of remedies for breach thereunder, debt holders can impose rules and restrictions on management. The debenture caveats of loans often restrict the over-expansion of corporate operation. By containing the propensity for empire building, debt financing improves corporate value. McConnell and Servaes (1995) find that firm leverage is positively correlated with firm value when a firm’s growth opportunities are scarce.

Thirdly, the theory of financial intermediation argues that banks have incentives to collect information and monitor firms to ensure the returns to the depositors (e.g., Diamond 1984). Bankers’ specialized knowledge helps to reduce information asymmetry. Moreover, typical bank loans are short term. During the renewal of bank loans, bankers actively investigate corporate quality and evaluate the investment risk (Shleifer and Vishny 1997). If managerial agency costs are excessive and credit risks are high, banks tend to reject the renewal or additional funding. Consequently, it signals to the market the quality of firm management and may trigger a disciplinary action from equity holders on the managers. Harris and Raviv (1990) model the informational role of debt. Debt financing improves corporate performance by inducing due diligence monitoring by creditors.

In summary, classical corporate finance theories argue that high leverages reduce managerial agency costs and strengthen corporate governance (e.g., Jensen and Meckling

1976, and Harris and Raviv 1991). Kaplan (1989) finds that a high financial leverage coming with leveraged buyouts has a positive effect on corporate performance.

However, the above theories on the governance role of debt have an implicit assumption that there is the arm's length relationship between creditors and debtors. If the creditors and debtors have the same owner, debt contracts can be always rewritten with the intervention of the owner. If the owner has multiple interests, the conflict of interests within the owner and consequently within the creditors may bring about the vacuum of corporate governance. Institution matters.

La Porta *et al* (2003) find that government ownership of banks is prevalent in emerging markets. La Porta *et al* (1999) shows that many large firms around the world are owned by the government. The shared governmental ownership in both creditors and debtors sets an example to understand the institutional requirement for debt governance to function. This paper examines the relationship between bank lending and managerial agency costs under dual government ownership.

The public listed companies (PLCs) in China provide a laboratory in which to study this question. Most of the banks are directly owned by the government. According to China's Securities Regulatory Commission, the government owns more than 47% shares of all the PLCs in 2003. There are 35% of total firms with government shares more than 50% among the total shares, 54% of total firms with more than 30% government shares. Bank loans are 27% of the total assets of these firms. Constructing a panel dataset with 8201 firm-year observations, we find that an increase in financial leverage increases the size of managerial perquisites and free cash flows, although the negative relationship between debt levels and board-member turnovers is not statistically

significant. These findings suggest that the governance role of debt does not function in China; on the contrary, debt financing encourages managerial agency costs in these firms. Bank loans expand the resources under the control of the managers and so facilitate managerial agency costs. We further find that the facilitator role of debt on managerial agency costs comes from the companies with a large government shareholder rather than the companies with a large private shareholder. That is, the failure of governance functions of debt financing results from the government ownership shared by both the creditors and the debtors.

These theoretically surprising but institutionally intuitional findings show that ownership matters. The government has both political interests and financial interests (Tian 2000). Since political interests intervene with commercial decisions, there are conflicts of interests within the government and therefore within the government-owned banks. Firm managers take advantage of the failure of bank monitoring under the conflicts of interests and exploit corporate wealth.

The escape of China from the brunt of the 1997 Asia financial meltdown was only attributed to the rigid control of international capital movement with its non-tradable currency. The “Asian way of doing business” with high gearing for overinvestment (Singh 2003) in China is literally more profound than other Asian countries before crisis with the widespread business empire of the Chinese government. With integration into the global market, the peculiar relation between debt and managerial agency costs documented in this paper could eventually engulf China in a financial crisis. Under the dual government ownership, the facilitator role of bank lending on managerial agency costs is a Sword of Damocles looming over the future of this emerging economy.

We organize this paper as follows. Section 2 describes the institutional background of China's modern firms. Section 3 describes the data and presents the univariate analysis. Section 4 presents the empirical findings of the multivariate regressions. Section 5 discusses the rationale behind the relation between debt and managerial agency costs. We conclude this paper in Section 6.

2. China's Commercial Banks and Modern Firms

China has a bank-dominated financial system,⁵ but the stock market has been growing very fast in the last decade. Our data sample is composed of the firms listed on China's stock market.

2.1 Banking Sector and Bad Loans

Debt financing of China's firms comes from 40,000 financial institutions. The government fully owns Industrial and Commercial Bank of China, Agricultural Bank of China, China Construction Bank and Bank of China⁶. These four banks provide more than 80% of all corporate loans. With stipulating the Commercial Banking Law in 1995, the banks are required to function as a commercial entity and pursue profits, although they were essentially a department of the ministry of finance.

Lardy (1998) argues that the legal reform in China has so far done little to improve the allocation and use of bank capital. Since the government is the sole owner, these four banks follow the strategic direction of the government. With its political

⁵ Total loans reached US\$1.1 trillion and the ratio of loans to GDP exceeds 100% (Merrill Lynch, 2000).

⁶ Bank of China owns the Bank of China Hong Kong Ltd).

interests, the government has few incentives to see its loss-making firms liquidated, which brings about unemployment pressure. Consequently, the government owner sometimes asks the banks to finance these loss makers at the cost of banks. The bankers have to promote the political interests of the government for their own career concerns, although they are also responsible for making profits. Financial interests and political pressure are mingled together in the government-owned banks.

[Insert table 1 approximately here.]

This conflict of interests comes with bad loans. Table 1 provides an overview of the severity of the bad-loan problem in China. In an interview with the *Financial Times*, the governor of China's central bank admits that nonperforming loans at the Big Four come to about 25% of total loans. According to our interviewee who is a top banker but asked to remain anonymous for both his name and the name of the bank, there is 51.4% of the total loans are non-performing in a provincial branch of a major state-owned bank. Some academic papers estimate the cost to clean up the bad loans as about 40% of total GDP. Standard & Poor provides a figure of 50%. Some banks are technically insolvent, since the nonperforming loans are larger than net assets. The trust of depositors remains there only with the ultimate backing of the government.

These bad loans are not a legacy of the former planned economy, but they started to accumulate during the reform period. New bad loans keep breeding and this problem keeps worsening, which could eventually lead to a collapse of China's economy.⁷ Our

⁷ In fact, the Chinese economy suffers from many of the same debilitating structural problems that long plagued Korea, Thailand, Malaysia, and Indonesia, including the fragile bank-dominated financial systems, poor prudential surveillance, weak central bank regulation, and a largely state-owned financial sector that is almost insolvent. China emerged unscathed from the Asian financial crisis because of its control of foreign exchanges on capital accounts. However, this Pandora's Box has to be opened with the deepening reform and as China integrates into the world economy. This study of debt governance sheds lights on whether China is sliding into a financial crisis (Lardy 1998) and on how China can avoid a potential crisis.

study attempts to show a fundamental cause of bad loans as the failure of debt governance.

2.2 China's Stock Market and Public Listed Firms

The Chinese stock market has been growing very rapidly. Between 1992 and 2003, the market capitalization increased at the average rate of 63.3% per year. At the end of 2003, the total market capitalization was 36.4% of China's GDP. The number of listed companies grew 43.4% annually, from 53 PLCs in 1992 to 1287 PLCs in 2003. These firms are so-called as modern firms in the Chinese official language, as they are similar to firms in developed economies but different from China's state-fully-owned enterprises.

On the side of equity financing, the ownership of these PLCs is well clarified. The government is a large block shareholder, although there are no golden shares.⁸ The rule of one-share-one-vote is widely used in these modern firms. The controlling rights of the government shareholder are dependent on the sizes of government shareholding. There are 41% firms with a controlling government shareholder, and 32% firms with a controlling commercial shareholder. The government asset management companies and other agents of the government hold the shares and report to a special branch of the government—the Bureau of State Asset Administration.

Debt financing mainly comes from bank loans, except for temporary financing from enterprise arrears or trade credits. So far, there is no domestic market for corporate

⁸ Golden shares are shares with control restrictions, normally the veto right to major strategic decisions.

bonds in China yet. The banks, who own the major liabilities of the firms, are forbidden to own shares of PLCs.⁹

[Insert table 2 approximately here.]

Panel A in table 2 shows that the financial structure of these Chinese firms is similar to that of the firms in western economies. However, it remains a question whether the loans from these Chinese banks can also promote corporate governance. Examining the capital structure each year, Panel B confirms that the Chinese public listed firms are not heavily indebted. The total liabilities are 53.8% of total assets, and the bank loans are 27.6% of total assets. Since the PLCs are relatively large sized, their loans mainly come from state-owned banks. In Panel C, we examine the yearly changes of capital structures in the firms listed in 1994 and find that corporate borrowing keep increasing with time. It demands an explanation why the firms gradually increase debt financing after listing on the stock market.

Coming with the modern financial structure, there are modern corporate governance mechanism within these China's PLCs, like internal governance of the board of directors and the external governance of the market for corporate control. However, there is still no formal code of bankruptcy till today, although there is a trial code of Bankruptcy Law¹⁰. Very few large firms have been liquidated and no PLCs have gone into bankruptcy until very recently.¹¹ The enforcement of the trial code is very reluctant.

⁹ This rule came into effect in 1995, but it does not require a bank to sell out its shares in a firm purchased before 1995.

¹⁰ The Enterprises Bankruptcy Law was legislated in 1986, which is only a trial version and the formal version is still under discussion. It entitles the government owner to the right of a two-year restructuring period for enterprises that are in default before liquidation. It assigns top priority to pension and other welfare obligations. Employees' claims on their salaries and other welfares receive priority over debt creditors during liquidation. A formal bankruptcy code is under discussion this year (2004).

¹¹ In 2001, the *Huarong Asset Management Company* and other two creditors requested the Hubei Supreme Court to liquidate the *Monkey King PLC*. It is expected to be the first bankruptcy case of a public listed company.

2.3 Data Sample

There are three main electronic databases of these Chinese PLCs. Internationally, the leading vendor of Chinese data is the Taiwan Economic Journal (TEJ), but the TEJ database has a large number of missing values. The accountancy data before IPO and the data of directors in our sample come from this database. More than 80% Chinese investment bankers and security analysts rely on the data provided by the Genius database. We use their accountancy data after IPO and ownership data before 1998. With regards to accountancy and ownership data before 1998, the validity of the data sets is crosschecked, and missing points were made up, based on annual reports from an official website of the Shenzhen Stock Exchange <http://www.cninfo.com.cn/>. The CCER Sinofet dataset, which has partnered with Thomason, provides comprehensive data of the firms from 1998 to 2003.

This paper imposed two restrictions on our sample. It excluded financial companies, as their operations are distinctly different from industrial firms.¹² It also excluded the firms that do not issue shares for domestic investors;¹³ otherwise, we would have had to use the share prices from the markets of foreign investors, but such market values are not comparable. After these restrictions, the sample used to examine the relation between financial leverages and managerial agency costs includes 287 companies in 1994¹⁴, 308 in 1995, 519 in 1996, 717 in 1997, 822 in 1998, 919 in 1999, 1054 in

¹² Furthermore, due to regulations, fund management companies are excluded the government shareholder.

¹³ A-shares are the shares denominated in Chinese currency and traded on either the SSE or the SZSE. There are also so-called B-shares, H-shares and N-shares, which are mainly for foreign investors.

¹⁴ In 1994, the Company Law that stipulates the modern corporate governance structures took effect. In the same year, the China Securities Regulatory Commission introduced a series of six rules called the Contents and Forms of the Information Release by PLCs, which formatted the annual reports. Our data sample therefore starts from 1994.

2000, 1130 in 2001, 1193 in 2002 and 1252 in 2003. Altogether, the main data set used in this paper has 8201 firm-year observations.

3. Proxies and Univariate Analysis

With the available dataset, we select the proxies of managerial agency costs. There is an increasing distribution pattern of these data on the financial leverages. We further present these data by grouping them under different ownership structures. These imperfect classifications help to describe the data.

3.1 Financial Leverages

Since there is not an active domestic corporate bond market in China and trade credits for transaction purposes do not significantly contribute to corporate governance, the governance role of debt mainly comes from bank loans. Our main measure of financial leverage is therefore the ratio of the amount of bank loans to total assets. This ratio shows the liability of the firm, indicates the probability of financial distress, and approximates the influence of bankers in corporate management. A high gearing ratio in the firm should trigger a prudent lending policy of its banks and larger efforts of bank monitoring. We also examined other forms of gearing ratios, and the basic conclusions do not vary with different forms of gearing ratios.

[Insert table 3 approximately here.]

Classification is a way to present the data. To examine whether there is a distribution pattern of managerial agency costs on financial leverage, we group the firms into three clusters in table 4: A) firms whose financial leverage is below 10%; B) firms

with the leverage between 10% and 30%; and C) firms with leverage above 30%. There are 23% of total firms within the category A, 51% B, and 26%.

3.2 Ownership Clusters

We separate the firms into two clusters in table 4 and in the following regressions. We select the firms with the controlling shareholder as the government and these with the non-government controlling shareholder. The so-called non-government shareholders are the shareholders with solely financial interests, including family investors, another industrial company, investment funds, and foreign investors. The fundamental difference from the government shareholder is that these shareholders have no political interests. We can also name them commercial shareholders. Almost all the commercial shareholders have no significant ownership stakes in China's major commercial banks so far.¹⁵ Referring to the governmental regulation, the controlling threshold is selected as 30%. We also tried 50% and other thresholds, but the empirical findings in comparisons remain more or less the same.

3.3 Managerial Perks

There are three dimensions of managerial exploitation as perks, empire-building and entrenchment. Operational efficiency and corporate value are influenced by managerial exploitation, *ceteris paribus*.

Managerial perks are the hidden income of management teams. In fact, such perks were the main income for Chinese managers, since the average nominal annual salary of

¹⁵ The exception is the Minsheng Bank, but its loans to PLCs are marginal.

the general managers was only \$4,667.¹⁶ It is a normal practice for a firm to pay for the dinning, communication, transportation and even entertainment bills of the senior managers' whole family.

Most perquisites for managers are not explicitly reported in the annual reports formulated by the CSRC, but they inflate the accounting item of administration cost. Administration cost records the administration expenditure in organizing and managing corporate operation. It includes the expenses of the management team and the cost that should be born by the company as a whole, such as corporate cars, traveling expenses, entertainment expenses and other service bills. Among all the data reported in the annual report, the item of administration cost serves as the best indicator of managerial perks. We normalize the administration costs by sales, which controls for both size and operation effects. The quantitative difference among the administration cost ratios in different firms approximates the magnitude of perks taken by the managers.

Panel A in table 4 presents the distribution of perks by ownership and leverage clusters. The average ratio of administration cost to total sales is 9.1%. The firms under the control of a government shareholder spend 9.4% for every unit of sales, but these with a controlling commercial shareholder only 8.7%. Student T test for means and Mann-Whitney U test for the medians show the differences significant. Furthermore, there is an increasing pattern of administration costs with leverages in the government-controlled firms, but not the firms with the controlling commercial shareholder.

¹⁶ Wang (1998) shows the annual income of the general managers of 146 PLCs on the Shanghai Stock Exchange was only RMB 38,650 in 1997, although there are some cases of high bonuses for management teams.

3.4 Overinvestment

Empire-building is the problem of overinvestment. In China's GAAP items, capital expenditure is the sum of short-term investment, long-term investment and construction in place. We use the capital expenditure normalized by sales to indicate the magnitude of investment. Other things being equal, if the capital expenditure ratio is higher, the managers are more likely to build their empires. The assumption of other things being equal can be somehow justified with a large data sample. In fact, the Chinese market competition is fiercely and positive NPV investment projects diminish quickly. With the caveats of this proxy, we also check the cash retention ratios and find similar patterns.

The last two columns in Panel B of table 3 shows the investment ratio increases with an increased debt ratio. Bank loans do not push out the free cash flows, but contribute to new investment projects. There is also a strongly increasing pattern of cash retention ratios with leverage ratios. Panel B in table 4 further show that this increasing distribution pattern comes from the government-controlled firms. In contrast, the medians of the firms with a controlling commercial shareholder even presents a decreasing pattern, which implies that these firms have to reduce its investment scales to pay back bank loans.

3.5 Managerial Entrenchment

Board member turnovers are a measure that approximates the problem of managerial entrenchment. The database of Taiwan Economic Journal reports the names

of directors on an annual basis. Board member turnover is calculated as the number of exits from the board over the total number of corporate directors.

The last column of Panel C shows that medians of board turnovers increase with increasing leverages, but the difference of medians is not significant under Mann-Whitney U tests. Eyeball-checking can find this increasing pattern comes from commercial-shareholder-controlled firms. In contrast, the medians of board turnovers decrease in the government-controlled firms. However, the distribution of means is confusing, which may come from outliers.

4. Multivariate Regressions

The above descriptive analysis presents the data and we report the empirical findings of multivariate regressions. A positive relation is found between debt levels and the magnitude of managerial agency costs in the full sample, but it is driven by the government-controlled firms.

4.1 Regression Methods

Examining the relation between financial leverage and managerial agency costs, the basic model to estimate is:

$$\text{Managerial Agency Costs} = C + \alpha * \text{Debt} + B * \text{FirmCharacters} + \varepsilon$$

The dependent variables of managerial agency costs are perks, entrenchment and empire building. Following Berger and Ofek (1995), we control for the industry-specific shocks by normalizing dependent variables on their medians for the same industry.¹⁷ We

¹⁷ There are two kinds of industrial classifications for Chinese PLCs. One is the five-industry code: manufacturing, trade, utility, real estate and conglomerates. It is used by most studies on Chinese PLCs (for example, Xu and Wang 1999), but the industry effects cannot be well captured by this over-simplified industry classification (Chen and Jiang 2000). The other is a two digit standard industrial classification as

also control for the time-specific shocks by normalizing dependent variables on the five-year medians of the same firm, since the macro environment keeps changing with time in China.

The independent variable of debt is mainly reported with the leverage ratios of total bank loans to total capital, although other forms of leverage ratios are also tested. The factors of size¹⁸, tangibility¹⁹, age²⁰, ownership²¹ and profitability can induce spurious correlations between proxies of managerial agency costs and financial leverages. We therefore use these firm characters as control variables.

There are a number of proxies in our study and the calculated data of these proxies have different characteristics, but we need present the empirical results in a structured way. We therefore apply a range of econometric methods to this dataset, including OLS, DPD and CIV. Our ordinary least square estimation (OLS) uses the robust standard errors, which produces consistent standard errors even if the data is weighted or the residuals are not independently distributed.

Since current managerial exploitations may depend on previous managerial exploitations, we also report the regression result with the Arellano-Bond (1991) dynamic

21-industry-code, which is used in this paper. Adopting this two-digit industrial classification is a significant technical feature of this study.

¹⁸ With regard to economic fundamentals, large-sized firms have scale economies and better access to bank credits (Chhibber and Majumdar 1999). On the other hand, corporate size affects governance.

¹⁹ The asset structure or the assets' tangibility influences firms' growth and corporate valuation (Vilasuso and Minkler, 2001). The scales of managerial agency costs probably systematically vary with the structure of corporate assets. Mortgage borrowing depends on the tangibility of assets and so asset structure influences capital structure. In addition, the tangibility ratio also helps to identify the growth potential of a company.

²⁰ A firm with a long history can establish its reputation in the debt market and so firm age influences debt ratios. On the other hand, managerial agency costs, such as the entrenchment problem, are expected to vary with firm age.

²¹ Corporate governance literature (Shleifer and Vishny 1997) argues that a concentrated shareholding structure improves corporate governance and therefore reduces managerial agency costs. The creditors decide their lending policies and scales with reference to the shareholding structures. Herfindhal index is a

panel data method (DPD). This DPD method is a GMM regression. Our choice of control variables and the inclusion of the first lag of the independent variables are justified with the Sargon test. It also helps to check the robustness of our OLS regressions.

The instrumental variable regressions (CIV) allow a feedback system between managerial agency costs and financial leverages, which helps to control the causality problem. We instrument the financial leverages on the proxies of managerial agency costs lagged one year and other determinants of capital structure to report the CIV regression results in the previous tables. Following Booth et al. (2001), we use tax rates, risk, tangible, size, ROA and MBV as the determinants of financial leverages. It needs to point out that our study targets at examining the role of debt as a facilitator of managerial agency costs under dual government ownership, which only needs to prove the positive correlation between managerial agency costs and debt financing.

Discussing the influence of government ownership, we examine the impact of debt on managerial agency costs within different ownership groups that face different budget constraints. The regression coefficients in different groups are compared to show the differences of the impact of debt financing on managerial agency costs.

4.2 Administration Cost and Debt

Table 4 shows that the administration cost ratio rises when the financial leverage increases. In the OLS regressions, 1% higher financial leverage brings about 2.4% higher of administration costs. In the GMM dynamical panel regressions, it increases the ratio of administration costs by 2.2%. This effect is also significant when the financial leverages

proxy of the shareholding concentration by calculating the weight of the ten largest shareholders' holding stakes.

are endogenized in the instrumental variable regressions clustering on years. If financial leverage increases 1%, the ratio of administration cost increases by 3.7%. The firms spend more on administration in every unit of sales with increasing borrowings from the banks. That is, bank lending increases the resources under the managers' control and brings about high administration expenditures.

Column *government* finds a strong significant positive relation between debt and administration cost. With increasing one percent of bank lending, the managers of government-controlled firms tend to spend 2.6% on administration, part of which is probably put into their own pockets.

Column *commerce* reports that there is not a significant relation between the size of bank loans and administration costs in the firms under the control of a commerce shareholder, but the sign of debt coefficient is negative. Under the control of a non-government shareholder, the relative size of administration cost does not increase with the size of bank loans, but has an insignificant tendency to decrease.

That is, bank loans can provide managers more perquisites through administrative expenditures, but it only happens in the firms under the control of the government.

To control for sizes, we use the log form of total assets instead of sales in this regression with the intention to reduce the multi-collinearity with this ratio of administration cost to sales. We find that large firms have a low administration ratio. Large firms tend to spend less for per unit of sales, which is perhaps a kind of economies of scale. More important, a large firm probably draws the attention of the media and faces better monitoring. The monitoring helps to reduce the managerial perks. We further find that the firms whose assets are more specific and more tangible have a higher

administration cost ratio. These firms need more administration staff to manage these assets. Consistent with the governance effect of large shareholders, we find that ownership concentration helps to reduce administration cost in the OLS regressions and DPD regressions.

4.3 Capital Expenditure and Debt

Table 5 reports a positive relation between the ratios of capital expenditure and financial leverages. A 1% increase in financial leverage increases the ratio of capital expenditure over total sales 2% or 3%. Other things being equal, a firm with a higher ratio of capital expenditure tends to invest more and expand the size of the firm. A positive relation between cash retention and bank loans is also found, which is not reported here. The findings with either the investment ratio or the cash retention ratio show that bank loans in China encourage the managers to retain more cash to squander and over expand the firms for empire-building. It is well on the contrary to Jensen (1986)'s argument that debt shall push out free cash flows in the firms.

In the government-controlled firms, the positive effect of debt on investment is much larger. If the ratio of bank loans over total assets increases 1%, the ratio of capital expenditure over sales increases by 4%. Although the banks loans are mostly short term, there are only merely 8% of total capital expenditures for short-term investment. Managers use internal cash, equity capital and some bank capital to pursue long-term investments and expand corporate sizes. The classical theory of underinvestment problem suggests that "too much" debt induces managers acting in shareholders' interests to forgo positive net present value projects (Myers 1977). However, we find that with more bank loans, the managers control more capital and even invest in negative net present value

projects. Bank loans do not reduce free cash flows, but worsen the overinvestment problems in government-controlled firms.

In contrast, in the firms controlled by a commercial shareholder, with a higher ratio of bank loans, the firms tends to retain less free cash flows and cut down its investment scope, although it is not statistically significant. It is more or less consistent with both Myers (1977) and Jensen (1986), as the data cannot allow us to differentiate the positive NPV projects from the negative. Table 5 shows that ownership plays a role in the relationship between debt financing and investment.

We find that the tangible ratio—fixed assets to total assets—has a negative impact on the investment ratio. The firms with a large proportion of intangible assets tend to invest more. For instance, the information technology sector requires intensive investment. We do not find a significant impact of ownership concentration on the investment ratio.

4.4 Board-member Turnover and Debt

Table 6 investigates whether debt has an impact on managerial entrenchment. Board member turnover is the converse of managerial entrenchment. The coefficients of debt are found to be negative, which suggests that a firm with a higher debt ratio may have a low frequency of board-member turnovers. However, the negative coefficients in the OLS and DPD regressions are not significant in the full sample. In the CIV regressions, it is only marginally significant. Although it cannot be concluded that debt encourages managerial entrenchment, we find that debt financing does not reduce managerial entrenchments or provide a governance role in China.

We further decompose our sampled firms into going concerns and loss makers. The coefficient of bank loans remains insignificant.²² Therefore, there is no evidence to significantly support the view that debt affects managerial entrenchment, even in the firms under financial distress where the Aghion-Bolton shift of corporate control (1992) from shareholders to creditors is expected. Bankers generally have no significant impact on managerial replacement with a weak enforcement of the trial code of bankruptcy in China.

In column *government*, debt financing somehow decreases the frequency of management turnovers. Interestingly, the coefficient of debt turns to be positive in the firms with a commerce controlling shareholder, although it is not significant.

Table 6 shows that a concentrated shareholding structure significantly increases the frequency of board member turnovers and reduces managerial entrenchment. The change of managers is influenced by the voting rights of the controlling shareholder. The variable of size is negatively associated with board member turnovers. It is perhaps due to the fact that merger and acquisition happens in small sized companies more frequently than in large sized companies. We further find that firm age has a positive impact on managerial entrenchment. The reshuffling of the board of directors is a selection process. Having selected the right people, the firms with a longer history tend to have a more stable board of directors.

4.5 Efficiency Ratio and Debt

The above sections show that there are a positive relationship between bank loans and managerial agency costs, and this relationship is driven by the firms with a large

²² To be concise, we do not present the regression tables in the decomposition format.

government shareholder. Since there is no perfect proxy of managerial agency costs, we further examine the influences of bank loans on corporate efficiency and corporate value in China's PLCs. Other things being equal, if a firm has high managerial agency costs, corporate efficiency and corporate value are low.

Ang *et al.* (2000) uses the expense ratio to approximate agency costs in the firm. This ratio is operating expense scaled by annual sales. As a measure of efficiency, it indicates how effectively or ineffectively the managers operate the firm. Ang *et al.* (2000) compare the expense ratios in firms owned by many shareholders with the ratios in owner-manager firms that theoretically have no managerial agency costs. Using American data, they find that there is an insignificant negative relation between financial leverage and expense ratio. From their argument, I can conclude that a firm with a high expense ratio has a relatively high agency cost. Even without the control sample of the owner-manager firm, the variance of expense ratios shows the variance of the magnitude of agency costs in different firms. This ratio provides both an auxiliary measure of managerial agency costs and a measure of corporate efficiency.

Empirical findings in table 7 are consistent with previous tables. There is a positive relation between the expense ratio and debt ratio. If the ratio of bank loans to total assets increases by 1%, the ratio of operating expense to total assets rises by 1.4%. When the firm is highly leveraged, corporate efficiency is low and so *vice versa*. Debt cannot push the managers to reduce costs or improve efficiency. On the contrary, the efficiency of the government-controlled firms is even lower with a larger size of banking loans. If managers can access the low-risk bank credit and have more free money, the firm is under less pressure to survive and has less incentive to be efficient. The

coefficient of *debt* in the subsample of commerce-controlled firms has the minus sign, which means that sale expense reduces with increasing debt ratio, although it is not statistically significant. The comparison of the coefficients of expense ratios shows that agency costs in government-controlled firms are more severe than these in commerce-controlled firms.

4.6 Corporate Value and Debt

Managerial agency costs damage the intrinsic value of the firm. Following Perfect and Wiles (1994) and Chung and Pruitt (1994), I use the simplified Tobin's Q to approximate corporate value, which is measured as the sum of market value of equity plus book value of debt all over book value of total assets. This simplified Tobin's Q is widely adopted in the literature to avoid arbitrary assumptions about depreciation and inflation rates (e.g., Shin and Stulz, 1998). Different from the efficiency ratio, the influence of debt on market value of a firm is rather complex. Besides the effect of managerial agency costs, the cost of financial distress, tax shield and the market perception of debt affect the relation between financial leverage and market value. However, the relation between Tobin's Q and leverage itself is an interesting empirical question.

Table 8 finds that the increase of leverage decreases market value of the firms, similar to the findings in other countries. Different from McConnell and Servaes (1995), this relationship remains negative if we regress only with the low-growth firms. When the firms under the controlling shareholder as the government, corporate values decreases 0.9% with a 1% larger ratio of bank loans to total assets. When a shareholder oriented for commercial interests stays in control, corporate value only decreases by 0.7%. The

differences of *debt* coefficients in two subsamples are statistically significant. When bank loans are large, the market perceives the problem of managerial exploitation and devalues these firms, since large loans are associated with a high probability of tunneling and empire building. Although there are other interpretations on this relation, our findings of *Q* are fairly consistent to the proxies of managerial agency costs.²³

In our set of control variables, we find that corporate value is high when the firm has a concentrated shareholding structure, supporting Shleifer and Vishny (1986) and Shleifer and Vishny (1997). The table also shows that a firm with a longer history has a lower value. A larger-sized firm has lower corporate value, which may come from the market trading strategies in China.

5. Conflicts of Governmental Interests and Tunneling

We find that there is a positive relationship between bank loans and managerial agency costs and that government ownership is a necessary condition for bank lending to facilitate managerial agency costs. This section discusses the dual government ownership in banks and firms.

²³ As suggested in Section 3, there is no clear predication of Hypothesis CF on the relation between financial leverage and corporate value. Titman and Wessels (1988) and Rajan and Zingales (1995) find that there is a negative relation between the market-to-book value and debt ratios in developed markets. Their findings may be driven by the risk of financial distress (Fama and French 1992) and by the tendency for firms to issue SEOs when P/E ratios are high, which decreases the leverage ratios (Rajan and Zingales 1995).

5.1 Government Ownership

Debt financing is supposed to help reduce managerial agency costs and improve corporate governance. However, our findings show that bank loans facilitate managerial agency costs in the firms owned by a large government shareholder. When the government is the controlling shareholder, debt is not an instrument of corporate governance, but a vehicle of managerial exploitation. Too much debt does not bring about the problem of underinvestment, but the problem of overinvestment in these firms.

The failure of classical theories in an emerging market does not come from their logical faults, but from their implicit assumptions of institutional settings. The key setting for our theoretically surprising findings is the government ownership in both the creditors and the debtors. Government ownership changes the rational behaviors of shareholders, managers and creditors, since the agents have to promote the interests of the principal by and large. Controlled by the same shareholder, the creditors feel tough to pursue its financial interests at the costs of the shareholders of the borrowing firms. Under the same owner, it is not effective for the creditors to watch over the debtors, either. Furthermore, the government has its internal conflicts of interest when it does businesses. As a business owner, it desires for financial returns. As the government, social welfares and consolidation of its power are its pursuit. For instance, the government sometimes even explicitly requires these banks to provide “policy loans” to support these state-owned enterprises with low operational efficiency. When political interests mingle with financial interests, the contract of debt cannot function well. Managers can take advantage of this ownership institutional setting to exploit corporate wealth.

5.2 Soft Budget Constraints

The government ownership of both banks and firms bring about soft budget constraints. Soft budget constraints are narrowly defined as the expected re-negotiability of debts when the firms are owned by the government (Kornai 1980, 1998)²⁴. There is a pressure of the government on creditors to refinance loss makers in order for political benefits. Consequently, the firms in default expect refinancing instead of bankruptcy.

The threat of shift of control under financial distress is not realistic, when an agency of the government performs as the shareholder of a firm. It tends to retain its control by exerting pressure on creditors for refinancing, which is political interference. Without the threat of the shift of control *de jure*, the managers in *de facto* control are not concerned with the dissatisfaction of the creditors.

Forcing out free cash flows from the borrowing firms may not work, either. A going concern normally pays back its interest and loan principal, but bank lending injects capital into firms and the firm can keep borrowing new loans to pay back old loans, if the credit is soft. The managers then use the frequently renewed bank capital to expand corporate operations and build their empire. Bankers therefore hand out cash to the managers without the governance implication. In fact, under bureaucratic coordination of economic activities, the bankers have few incentives to undertake due diligence monitoring.

²⁴ Dewatripont and Maskin (1995) show that when creditors have limited information on the future return of an investment and cannot commit to terminating ex post unprofitable projects, there is a soft-budget-constraint problem. The sunk costs of initial financing provide creditors the incentive to continue their finance, even when the firm cannot pay back some interest and loans. This holdup problem is universal. This is a strong form of soft budget constraints, different from Kornai (1998).

Under soft budget constraints, debt therefore cannot reduce managerial agency costs. On the contrary, debt financing expands the resources managed by firm managers and facilitates managerial exploitation. This argument is consistent with the theory of politicians and the firm (Shleifer and Vishny 1994).

5.3 Moral Hazards

In the process to shifting capital from government-owned banks to government-controlled firms, the firm managers with moral hazards put some money into their own pockets and squander other money for personal purposes under weak corporate governance. There are some cases that some Chinese managers with a nominal annual salary of \$4,667 bought real estates in London or lose millions in a Las Vegas casino. This corruption problem is so extensive that the cleaning-up cost of bad loans may reach half the Chinese GDP.

The moral hazard also exists for the bankers of government-owned banks. La Porta *et al.* (2000) argues that the banks under the control of the government are politicized. Because of government ownership, typical Chinese bankers perceive themselves as the financial agents of the government. These bankers would like to follow the orders of the government to provide the government-controlled firms capital rather than take care of the profitability of their own banks. Because of the ultimate backing of the government, these banks have no fear of bankruptcy. The classical incentive problem of SOEs also exists in these government-owned banks and these bankers are not strongly motivated to provide due-diligence monitoring. On the contrary, such bankers may tend to lend to a firm with a high managerial agency costs, since a corrupted firm manager will share some private benefits with an individual banker.

The moral blame of managerial exploitation of bank loans should be attributed to both firm managers and bankers, but the fundamental cause is the institutional arrangement of government ownership. When the government becomes a businessman, its own complex interests provide the opportunity for some individuals to capture personal benefits. Dual government ownership of banks and firms inevitably causes soft budget constraints and the failure of debt governance.

6. Conclusion

The traditional corporate finance theory argues that debt governance is “harder” than equity governance (Williamson 1988). The governance role of debt functions by threatening to sack incumbent managers whose firms are under financial distress, forcing out free cash flows in going concerns and encouraging due diligence monitoring activities. Using the data of the companies listed on China's stock market, we find that financial leverages are associated with decreasing Tobin's Q, increasing expense ratios and increasing administration expenditures. There is a failure of debt governance. Furthermore, we find that the government ownership of the firms is a necessary condition for the facilitator role of debt in managerial agency costs.

Government ownership of both banks and firms bring about soft budget constraints, which fundamentally change the governance role of debt. Under soft budget constraints, debt is a catalyst for managerial agency costs. That is, debt gives the managers a free hand over a larger pool of capital. Over-investment and tunneling destroy shareholders' value. The problem of debt governance in China is even more profound and

deep-rooted than that of pre-crisis East Asian countries. The facilitator role of debt in managerial agency costs could one day bring down the Chinese economic giant.

Besides the contracting and legal mechanisms, ownership matters. The dual government ownership of the banks and enterprises inevitably results in bureaucratic coordination of economic activities.²⁵ Due to the political benefits of social stability, this coordination rationally obstructs bankruptcies. Firm managers then snare bank loans. The fundamental correction of the failure of debt governance requires the government to desist from owning and conducting business.

²⁵ Our findings concerning the governance vacuum in government-control firms, with the major creditors as the government-owned banks, provides new evidence to support the inefficiency of government ownership of banks (La Porta, Lopez-de-Silanes and Shleifer 2000). The argument of governance failure enriches their “political” theories.

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Table 1: Bad Loans

This table summarizes some studies to estimate the size of bad loans among total loans, and the cost to clean up the bad loans.

Study	Period	Estimate
Problem loans (as percentage of outstanding loans)		
Li (1998)	End of 1996	24.4%
	Mid-1997	29.2%
CCER (1998)	1997	24.0%
Fan (1999)	1997	26.1%
	1998	28.3%
Dai Xianglong (2001, interview with FT)	2001	28.0%
Clean up costs (as percentage of GDP)		
Moody	1999	18.8%
Dornbusch and Givazzi (1999)	1999	25.0%
Standard and Poor	2001	50.0%

Table 2: Financial Leverages

The table reports the means, standard deviations, and medians of the proxies of capital structures for our sample of companies listed on either the Shanghai Securities Exchange or the Shenzhen Stock Exchange. The leverage ratios are based on the accounting reports. Panel A reports the aggregated numbers compared with other countries. The figures for the United States, United Kingdom, Japan, and Germany are from Rajan and Zingales (1995). The figures for South Korea, India, Turkey, Brazil, and Mexico are from Booth *et al.* (2001). Panel B reports the leverage ratios of all the firms listed on the stock market. Panel C reports the leverage ratios of the firms listed in the year 1994 and shows the changes of leverage ratios of the same group firm from 1994 to 2003.

Panel A: International Comparison

	No. of Firms	Time Period	Nonequity Liabilities to Total Assets	Debt to Total Assets	Debt to Capital
China	287~1252	1994~2003	0.47	0.25	0.32
United States	2580	1991	0.58	0.27	0.37
United Kingdom	608	1991	0.56	0.24	0.34
Germany	191	1991	0.76	0.16	0.39
Japan	514	1991	0.75	0.42	0.63
South Korea	49	1985~1991	0.30		
India	99	1980~1990	0.67		
Turkey	45	1983~1990	0.59		
Brazil	49	1985~1991	0.30		
Mexico	99	1984~1990	0.34		

Panel B: Leverage Ratios of China's PLCs from 1994 to 2003

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Liability to Total Assets											
mean	0.450	0.477	0.440	0.415	0.420	0.437	0.447	0.493	0.506	0.538	0.470
median	0.441	0.458	0.452	0.413	0.413	0.416	0.419	0.434	0.451	0.484	0.438
Bank Loans to Total Assets											
mean	0.217	0.235	0.235	0.219	0.222	0.240	0.240	0.265	0.262	0.276	0.247
median	0.210	0.226	0.229	0.210	0.216	0.225	0.216	0.238	0.238	0.255	0.229
Bank Loans to Capital											
mean	0.286	0.314	0.304	0.283	0.290	0.321	0.312	0.316	0.337	0.347	0.316
median	0.293	0.304	0.298	0.273	0.279	0.288	0.277	0.304	0.315	0.338	0.299
Observations	287	308	519	717	822	919	1054	1130	1193	1252	8201

Panel C Leverage Ratios of China's PLCs Listed in 1994

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Liability to Total Assets											
mean	0.430	0.459	0.460	0.458	0.482	0.507	0.545	0.540	0.548	0.580	0.501
median	0.448	0.449	0.472	0.475	0.484	0.505	0.504	0.506	0.524	0.532	0.490
Bank Loans to Total Assets											
mean	0.217	0.233	0.245	0.247	0.264	0.285	0.300	0.296	0.276	0.291	0.265
median	0.202	0.199	0.228	0.241	0.249	0.264	0.257	0.260	0.239	0.267	0.242
Bank Loans to Capital											
mean	0.286	0.314	0.304	0.283	0.290	0.321	0.507	0.462	0.315	0.382	0.364
median	0.293	0.304	0.298	0.273	0.279	0.288	0.277	0.304	0.315	0.338	0.299
Observations	109	107	107	107	107	107	107	107	104	104	1066

(the rest of the tables are being updated)

Table 3: Managerial Agency Costs, Financial Leverage and Ownership Types

The table presents median and mean of managerial agency costs using the dimensions of ownership types and debt clusters. The “government” cluster is the firms under the control of a government; the “commerce” cluster is the firms under the control of a non-government shareholder. The first number in each cell is the mean and the second the median. The financial leverage is measured by the total bank loans normalized by total assets. Based on the distribution of the data, this financial leverage is grouped to three clusters. Panel A reports the ratio of administration costs, which is measured by the administration expenses normalized by total sales. Panel B reports the ratio of cash retention, measured by one minus the dividend ratio. The dividend ratio is calculated by the distributed dividends of common stock over distributable earnings. Panel C reports the ratio of board-member turnover, measured by the annual number of resigning directors in the board over the total number of directors.

Panel A: Administration Costs

LEVERAGE		GOVERNMENT		COMMERCE		TOTAL
0~10%		0.078		0.085		0.082
		0.051		0.052		0.051
10%~30%		0.090		0.080		0.086
		0.073		0.073		0.073
30%~100%		0.111		0.105		0.109
		0.078		0.061		0.074
Total		0.094		0.087		0.091
		0.071		0.064		0.069

Panel B: Investment Ratio

LEVERAGE		GOVERNMENT		COMMERCE		TOTAL
0~10%		0.300		0.409		0.357
		0.199		0.234		0.199
10%~30%		0.370		0.360		0.366
		0.270		0.218		0.261
30%~100%		0.449		0.382		0.427
		0.290		0.209		0.272
Total		0.378		0.377		0.378
		0.263		0.217		0.254

Panel C: Board Turnovers

LEVERAGE		GOVERNMENT		COMMERCE		TOTAL
0~10%		0.515		0.449		0.491
		0.490		0.364		0.378
10%~30%		0.469		0.448		0.460
		0.472		0.387		0.435
30%~100%		0.476		0.503		0.486
		0.439		0.435		0.438
Total		0.480		0.466		0.474
		0.455		0.385		0.433

Table 4: Regressions of Administration Cost

The table reports the regression results of administration cost ratios on debt. The dependent variable, the ratio of administration costs is measured by the administration expense normalized by total sales, adjusted by industries and years. The control variables are introduced in the appendix. The Hadi method is followed to remove the outliers. Column 1 reports the OLS regressions with robust standard errors. Column 2 reports the Arellano-Bond GMM regressions (DPD), which controls for the endogeneity problem of financial leverages. Based on Booth *et al.* (2001), column 3 further instruments the financial leverages on tax rate, risk, tangible, size, ROA and MBV. If adding managerial agency cost as one more instrument of financial leverages, the results remain the same. Columns 3, 4, 5 and 6 then reports the robust two stage regressions with clustering by years (CIV). With the CIV methods, Column 4 examines the subsample that the government shareholder in total control of the firms, Column 5 examines the subsample that the government shareholding is larger than 10% but below 40%, and Column 6 examines the subsample that an entrepreneur is in control of the firms. The standard deviations are reported in parentheses. *** indicates being highly significant with p-value smaller than 0.01, ** indicates being significant with p-value smaller than 0.05 and * indicates being marginally significant with p-value smaller than 0.10.

	OLS	DPD	CIV	Government	Commerce
Debt	2.403*** (0.226)	2.156*** (0.253)	3.688*** (1.357)	2.584*** (0.936)	-0.082 (0.387)
Lagged Debt		0.461*** (0.123)			
Size	-0.222*** (0.059)	-0.491*** (0.084)	-0.308*** (0.044)	-0.175*** (0.021)	-0.082* (0.033)
Tangible	0.904*** (0.200)	0.432** (0.221)	0.691*** (0.138)	0.280** (0.132)	0.525 (0.329)
Age			0.002** (0.001)	0.001** (0.001)	-0.002 (0.003)
Herfindhal	-6.448** (3.227)	-4.866* (3.557)	-0.821 (1.295)	0.742 (1.089)	2.915** (0.867)
Constant	4.599*** (1.238)	0.112*** (0.024)	3.967*** (0.441)	3.379*** (0.438)	1.542*** (0.044)
Significance	0.000	0.000	0.000	0.000	0.000

Table 5: Regressions of Investment Ratio

The table reports the regression results of capital expenditure ratio on debt. The investment ratio is measured by capital expenditure normalized by sales, adjusted by industries and years. The control variables are introduced in the appendix. The Hadi method is followed to remove the outliers. Column 1 reports the OLS regressions with robust standard errors. Column 2 reports the Arellano-Bond GMM regressions (DPD), which controls for the endogeneity problem of financial leverages. Based on Booth *et al.* (2001), column 3 further instruments the financial leverages on tax rate, risk, tangible, size, ROA and MBV. If adding managerial agency cost as one more instrument of financial leverages, the results remain the same. Columns 3, 4, 5 and 6 then reports the robust two stage regressions with clustering by years (CIV). With the CIV methods, Column 4 examines the subsample that the government shareholder in total control of the firms, Column 5 examines the subsample that the government shareholding is larger than 10% but below 40%, and Column 6 examines the subsample that an entrepreneur is in control of the firms. The standard deviations are reported in parentheses. *** indicates being highly significant with p-value smaller than 0.01, ** indicates being significant with p-value smaller than 0.05 and * indicates being marginally significant with p-value smaller than 0.10.

	FEP	DPD	CIV	Government	Commerce
Debt	1.875** (0.426)	2.377*** (0.562)	2.783*** (0.348)	4.370** (1.930)	-3.066 (3.395)
Lagged Debt		-0.501*** (0.135)			
Size	-0.093 (0.114)	-0.298* (0.114)	-0.128** (0.037)	0.217 (0.517)	-5.693* (3.310)
Tangible	-4.180*** (0.387)	-1.432*** (0.421)	-0.958*** (0.169)	-0.076 (0.080)	0.017 (0.095)
Age			0.002* (0.001)	-0.001** (0.000)	-0.002** (0.001)
Herfindhal	-1.800 (6.254)	-2.897 (3.561)	-3.582 (1.317)	2.363 (1.776)	-3.456 (2.247)
Constant	3.334 (2.416)	3.329*** (0.244)	3.208** (0.799)	0.852*** (0.261)	0.984** (0.402)
Significance	0.000	0.000	0.000	0.000	0.003

Table 6: Regressions of Board-member Turnover

The table reports the regression results of board-member turnover frequency on debt. The dependent variable, the ratio of board-member turnover is by the annual number of resigning directors in the board over the total number of directors. The control variables are introduced in the appendix. The Hadi method is followed to remove the outliers. Column 1 reports the OLS regressions with robust standard errors. Column 2 reports the Arellano-Bond GMM regressions (DPD), which controls for the endogeneity problem of financial leverages. Based on Booth *et al.* (2001), Column 3 further instruments the financial leverages on tax rate, risk, tangible, size, and MBV. If adding managerial agency cost as one more instrument of financial leverages, the results remain the same. Columns 3, 4, 5 and 6 then reports the robust two stage regressions with clustering by years (CIV). With the CIV methods, Column 4 examines the subsample that the government shareholder in total control of the firms, Column 5 examines the subsample that the government shareholding is larger than 10% but below 40%, and Column 6 examines the subsample that an entrepreneur is in control of the firms. The standard deviations are reported in parentheses. *** indicates being highly significant with p-value smaller than 0.01, ** indicates being significant with p-value smaller than 0.05 and * indicates being marginally significant with p-value smaller than 0.10.

	FEP	DPD	CIV	Government	Commerce
Debt	-1.182 (1.123)	-1.251 (1.267)	-2.695* (1.258)	-1.098 (1.183)	0.048 (0.153)
Lagged Debt		-0.064 (0.057)			
Lagged ROA	-0.299** (0.054)	0.087 (0.186)	-0.701* (0.392)	0.217 (0.517)	-5.693* (3.310)
Size	0.013 (0.009)	0.179** (0.077)	-0.101 (0.123)	-0.039*** (0.013)	-0.049** (0.013)
Tangible	-0.038*** (0.004)	-0.034** (0.019)	-0.007 (0.392)	-0.076 -0.080	0.017 (0.095)
Age	-0.0004 (0.0004)		-0.002*** (0.001)	-0.001** (0.000)	-0.002** (0.001)
Herfindhal	2.040*** (0.207)	3.434** (1.981)	1.936* (1.072)	2.363*** -0.776	3.456*** (1.247)
Constant	0.093 (0.274)	0.267*** (0.021)	0.255 (0.472)	0.852*** -0.261	0.984** (0.402)
Significance	0.000	0.000	0.000	0.000	0.003

Table 7: Regressions of Expense Ratio

The table reports regression results of expense ratios on debt are reported. Following Ang *et al.* (2000), this table reports the results taking the corporate efficiency ratio as a dependent variable that is measured as operating expense scaled by annual sales. Hadi method is followed to remove the outliers. Based on Booth *et al.* (2001), this table instruments the financial leverages on tax rate, risk, tangible, size, ROA and MBV. If adding managerial agency cost as one more instrument of financial leverages, the results remain the same. Column 1 reports the OLS regressions with robust standard errors. Column 2 reports the maximum log likelihood panel regressions. Column 3 reports the Arellano-Bond GMM regressions (DPD), which controls for the endogeneity problem of financial leverages. Column *State* examines the subsample that the government shareholder in control of the firms, and column *Commerce* examines the subsample that a non-government shareholder is in control of the firms. The standard deviations are reported in parentheses. *** indicates being highly significant with p-value smaller than 0.01, ** indicates being significant with p-value smaller than 0.05 and * indicates being marginally significant with p-value smaller than 0.10.

	OLS	MLP	DPD	Government	Commerce
Debt	0.082** (0.037)	1.102*** (0.034)	0.058** (0.032)	0.104*** (0.036)	-0.075 (0.087)
Lagged			0.036* (0.022)		
Size	0.004 (0.005)	0.009 (0.006)	0.038 (0.027)	0.002 (0.005)	0.022** (0.009)
Tangible	-0.070** (0.030)	-0.049* (0.028)	0.050 (0.045)	-0.062* (0.033)	-0.025 (0.059)
Age	0.000 (0.000)	0.000 (0.000)		0.000 (0.000)	0.001** (0.000)
Herfindhal	-0.047 (0.239)	-0.110 (0.303)	-0.115 (0.738)	-0.280 (0.281)	-1.949** (0.800)
Constant	-0.052 (0.100)	-0.207* (0.115)	0.014*** (0.004)	0.064 (0.106)	-0.291* (0.174)
Significance	0.000	0.000	0.000	0.000	0.000

Table 8: Regressions of Simplified Tobin's Q

The table reports regression results of simplified Tobin's Q on debt are reported. Following Chung and Pruitt's (1994), this Q is measured as the sum of market value of equity and book value of debt over book value of total assets. Hadi method is followed to remove the outliers. Based on Booth *et al.* (2001), this table instruments the financial leverages on tax rate, risk, tangible, size, ROA and MBV. If adding managerial agency cost as one more instrument of financial leverages, the results remain the same. Column 1 reports the OLS regressions with robust standard errors. Column 2 reports the maximum log likelihood panel regressions. Column 3 reports the Arellano-Bond GMM regressions (DPD), which controls for the endogeneity problem of financial leverages. Column *State* examines the subsample that the government shareholder in control of the firms, and column *Commerce* examines the subsample that a non-government shareholder is in control of the firms. The standard deviations are reported in parentheses. *** indicates being highly significant with p-value smaller than 0.01, ** indicates being significant with p-value smaller than 0.05 and * indicates being marginally significant with p-value smaller than 0.10.

	OLS	MLP	DPD	Government	Commerce
Debt	-0.842*** (0.133)	-0.847*** (0.159)	-0.579* (0.317)	-0.871** (0.210)	-0.709* (0.371)
Lagged			0.128*** (0.045)		
Size	-0.080*** (0.011)	-0.037*** (0.014)	-0.627*** (0.103)	-0.153*** (0.014)	-0.439** (0.099)
Tangible	0.242*** (0.063)	0.317*** (0.066)	0.001 (0.276)	0.025 (0.261)	0.249* (0.093)
Age	-0.002*** (0.000)	-0.002*** (0.001)		-0.003** (0.001)	0.000 (0.003)
Herfindhal	2.466*** (0.561)	1.923** (0.718)	2.673* (1.499)	1.449* (0.602)	2.980*** (0.169)
Constant	1.570*** (0.225)	0.741*** (0.281)	0.076*** (0.023)	3.175 (1.712)	8.973** (2.101)
Significance	0.000	0.000	0.000	0.000	0.000