

BANK LENDING INCENTIVES AND FIRM INVESTMENT DECISIONS IN CHINA

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June 2009

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Abstract

In this study, we investigate whether and how banks' lending incentives, in emerging market like China, influence firms' investment behaviors, the key determinant of firms' productivity. First, being connected with bureaucrats provides firms with a comparative non-economic advantage of access to debt in China. Our empirical results show that loans granting to political connected firms is less sensitive to those firms' profitability and tangibility, which is consistent with "rent-seeking" hypothesis. Second, political connection is a violated factor in debt markets and politically connected lending is accompanied by less monitoring posted by banks. Consequently, our study finds that firms with political tie invest less efficiently than firms without political tie when they can access to abnormal debt through political tie. Moreover, the negative relation between politically connected lending and firms' investment efficiency is stronger for state-owned firms (SOEs) and low growth firms. Finally, we find that region development with regard to financial development and government quality improvement reduces politically connected lending's negative impact on firms' investment efficiency. In sum, soft lending, like politically connected lending, destroy economic growth because of misallocation of scarce resources among firms and also because of less incentive to monitor firms' project selection.

Analyzing how banks' lending incentives influence firms' investment decision making contributes to our understanding of the link between banking system development and firm value. First, it adds another dimension to our understanding of the mechanism underlying banks' lending decision that potentially has significant economic consequences. Second, besides the benefits associated with political connection documented in prior literature, connections can be costly if firms abuse this preferential rights, for instance, they easily access to debt financing but no promising projects. Also, connection based lending could hurt promising firms because it make those firms access to financing more difficultly.

Keyword: bank lending incentive, investment efficiency

JEL:G21,G31

1. Introduction

Based on the data from the national bureau of statistics of China (NBS), fixed asset investment accounts for close to 50% of China's GDP growth. Nevertheless, many scholars and practitioners are really concerned whether such investment-driving economic growth can be sustained going forward? A parallel question we would like to raise is how much of such investment is actually excessive and how much of such excessive investment could be reduced. By saying "excessive investment", we mean the investments that are of low efficiency --- although they contribute to GDP, they barely create value rather than generate excessive supplies here and there. In the corporate finance literature, the seminal work by Modigliani and Miller (1958) suggests that, in perfect capital and credit markets, the investment behavior of a firm is irrelevant to its financing decisions. However, in the presence of market imperfections, any financing frictions should reflect on firms' investment decisions. For example, information asymmetry between insiders and outsiders could affect firms' cost of capital and cause investment distortion. Besides information asymmetry and agency problems, improper incentives or agency problems in credit market (hereafter, soft lending¹) are financing friction of consequence, which undermines their primary function of allocating scarce capital efficiently. This is a particularly serious problem in emerging markets, like China, with lack of efficient law enforcement and property rights protection. For instance, 461 cases of bank fraud involving more than one million Yuan (US\$125,000) each were uncovered in China in 2005 (Barth, Lin, Lin, and Song, 2007). Therefore, this study will identify a pronounced type of soft lending-- lending based on political tie-- in China and then investigate whether politically connection based soft lending influence firms' behaviors with regard to investment decisions, the key determinant of firms' productivity.

¹ Soft lending is defined as lending decision based on non-market terms to privileged clients, for example, political connection and regulation.

relationship-based transactions are popular in emerging market and Political tie can be seen as “reputation of profitability” because a large literature documents that politically connected firms outperform companies without relationship when institutional constraints are weak (e.g., Dinc, 2005; Fishman, 2001; Johnson and Mitton, 2003). However, prior research keeps silent about the related cost of political connection to firms. Our paper will shed light on this issue by addressing two fundamental questions: whether banks always make lending decisions to favor firms with political tie? And what is the economic consequence of such political connection based lending? Many companies in China are led by politically connected CEOs who ever served as bureaucrats in the central or in local government (Fan, Wong, Zhang, 2007). Almost 36% of listed companies are led by politically connected CEOs in China, which provide a semi-experimental setting to investigate the issue. We argue that politically based lending could cause misallocation of resources by banks and reduce investment efficiency in China. First, China is big fast growing economy but weak legal institution and less developed financial market. “Big Four” banks dominate Chinese banking system², which are ultimately controlled by central or local government and consequently government has huge influence on banks’ operation including lending decisions. Thus, it is easier for government officers to help politically connected firms to get bank loans no matter firms’ performance and firms’ creditworthiness³. We term this “rent-seeking” hypothesis. In prior research, political connection is rent-seeking tool to extract private benefits. In the context of China, managers could use their political connection to get bank loan as much as they can. However, after political connection brings more funds to firms, firms will invest more no matter whether they have promising investment opportunities. For example, managers can pursue “empire-building” and expand

² Berger, Hasan, Zhou (2008) analyze the efficiency of Chinese banks over 1994-2003 and their findings suggest that Big Four banks are by far the least efficient; foreign banks are most efficient; and minority foreign ownership is associated with significantly improve efficiency. Lin and Zhang (2008) also find that the “Big Four” state-owned commercial banks are less profitable, are less efficient, and have worse asset quality than other types of banks except the “policy” banks.

³ Chaney, Faccio, Parsley (2007) find that for political connected firms lower quality reported earnings is not associated with higher cost of debt.

firms fast, which increase the likelihood of promotion and compensation of CEOs. Furthermore, banks as a major fund provider could play an important role in governing firms (Shleifer and Vishney 1997). However, politically connected lending is accompanied by less monitoring posted by banks, which can reduce managers' incentive to invest efficiently but provide convenient for managers to pursue personal benefits.

Our evidence supports "rent-seeking" view. In the study, we use a sample of 4,012 Chinese firm-year observations over the period from 1998 to 2005. We find that loans granting to politically connected firms is less sensitive to those firms' profitability and tangibility. In particular, negative relationship between firms' political connection and loan-profitability sensitivity is stronger for stated-owned enterprises (Hereafter SOEs) than for non-SOEs. Furthermore, politically connected firms are less relied on their mortgage assets to access to loan, especially for non-SOE firms. This result is also consistent with prior research documenting that the cultivation of political connections helps non-SOEs to overcome market and state failures and avoid ideological discriminations in China (Li, Meng, Wang, and Zhou, 2007). In terms of investment efficiency measure, we follow Bushman et al (2006)'s idea: relate investment growth to changes in investment opportunities (marginal Q). our empirical results show that firms with political tie invest less efficiently than firms without political tie, especially for low growth firms and SOEs. Moreover, firms with political tie invest less efficiently than firms without political tie only when politically connected firms get access to abnormal loan from banks. These results suggest that easily access to financing intensify the agency problems in firms with political tie.

China's highly decentralized political and economic systems provide large variation in institutional environments across its provinces and special districts, while its language, culture, and social norm remain unified (Fan, Huang, Oberholzer-gee, Zhao, 2007). This

provides a natural setting to examine how institutional constraints affect firms' political connection influence on firms' investment efficiency. It is predicted that region GDP, better government quality, and financial market development can increase the financial market development, reduce the ability of political connection to access to bank debt, and thus reduce the possibility of wasting money by political connection firms. In the empirical tests, we find that, in regions with better financial market and government quality, politically connection based lending less likely hurt firms' investment efficiency. In sum, improper incentives in bank lending destroy economic growth because of misallocation of scarce resources among firms and also because of less incentives to monitor firms' project selection. Our results indicate that, in the Chinese context, non-economic motivated bank lending comes at a significant cost to the whole economy productivity.

Analyzing how banks' lending incentives influence firms' investment decision making contributes to our understanding of the link between banking system development and firm value. Here we focus on whether bank lending incentives, proxied by political tie, affect firms' investment efficiency, a crucial determinant of firm value. First, it adds another dimension to our understanding of the mechanism underlying banks' lending decision that potentially has significant economic consequences. Our study provides empirical evidence that relationship-based lending could hurt firms' performance with regard to investment efficiency. Second, there is now a growing literature, which documents that firms can benefit in many ways from their connections, for example, they can get preferential access to markets and financing, they can sell to government entities at high-rent prices, they can get protection from legal system, and they are protected from domestic and foreign competition. These relationships appear to be particularly valuable in emerging markets such as China. On the other hand, connections can be costly if firms abuse this preferential rights, for instance, they easily access to debt financing but no promising projects. Also, connection

based lending could hurt promising firms because it make those firms access to financing more difficultly.

The remainder of the paper is organized as follows. Section 2 introduces banking industry in China and develops main hypotheses. Section 3 describes the data, sample, and research design. Empirical results are presented in section 4. Section 5 gets conclusions and limitations.

2. Hypothesis Development

2.1 Banking Industry in China

The banking system in China comprises the central bank, four large state-owned commercial banks, three policy banks, then national joint-stock commercial banks, about 100 regional commercial banks, and about 3,000 urban and 42,000 rural credits cooperative. One of key issues in China banking sector is the state control of banks. La Porta, Lopez-De-Silanes, and Shleifer (2002) directly address the issue of government ownership of banks and the negative impact of government ownership on bank performances. In the specific context of China, various authors have shed light on this issue. Lin and Zhang (2008) find that the “Big Four” state-owned commercial banks are less profitable, are less efficient, and have worse asset quality than other types of banks. Using provincial data from 1991 to 1997, Park and Seht (2001) show that the financial reforms of the mid-1990s were ineffective at lowering policy lending by “Big four” banks, thus negatively impinging on these banks’ performance, while “Big four” lending did not respond to economic fundamentals. Cull and Xu (2000) detect signs of state-owned banks’ loans going more and more to unproductive SOEs during the 1990s. In another related study, Allen, Qian, and Qian (2005) point out that the most glaring problem for China’s banking sector is the amount of nonperforming loans (NPLs hereafter) within the four largest state-owned banks. They also argue that a large fraction of these bad loans resulted from poor lending decisions made for SOEs, some of

which were due to political or other non-economic reasons. These facts are confirmed by a survey performed by the People's Bank of China in 2003, finding that of the total non-performed loans of state-owned commercial banks, 30% was due to intervention by the central and local governments, 30% resulted from mandatory credit support to SOES, 10% arose from the poor legal environment and weak law enforcement in some regions, and 10% stemmed from industrial restructuring in some enterprises, thus leaving 20% that originated from the operational decisions of the state-owned commercial banks themselves (Zhou, 2004). Those considerations suggests that the problems of the state-owned commercial banks largely stem from political interference leading state-owned banks to suffer losses often associated with lending to SOEs (Ferri, 2008).

2.2 Hypothesis Development

There is a growing body of literature on the implication of political connections in the business world. For example, political connection can help firms to access to resources such as bank loans (Khwaja and Mian, 2005; Faccio, 2006, Fan, Rui, and Wang, 2008; Claessens, Feijen, Laeven, 2009). But everything is tradeoff of benefit and cost, so is political connection. In the study, we will focus on the cost of political connection to banks and firms themselves. Compared to Faccio (2006)⁴, political connection is a pronounced characteristic of Chinese firms. Almost 36% of listed companies in our sample are led by politically connected CEOs in China, which provide a semi-experimental setting to investigate the value and cost of political connection of CEOs to banks and firms.

There is one question concerning practitioner and academic researchers: whether banks always make optimal lending decisions that lead to the efficient allocation of bank credits? Kang and Liu (2008) argue that actually there are several reasons why bank regulations and other economic factors may influence banks to engage in the misallocation of credit, for

⁴ Faccio (2006) provide a comprehensive look at corporate political connections around the world. In her study, Indonesia has the highest percent of firms connected with a minister or MP, or a close relationship and it is 22.08%.

example, there may be implicit agreements attached to bank-firm relationships that provide a bank with incentives to maintain long-term ties with its borrowers. Thus, it is problematic to generally assume efficient lending decisions by banks. Shleifer and Vishny (1994) suggest that politicians' intervention in business activities is more severe when institutional constraints are weak. Due to historical and institution reasons, China economy is of high government intervention. Thus, relationship-based transactions in form of political connection are popular in China⁵. In the particular context of China with popular political connection, we might want to ask: whether banks always make lending decisions that lead to favor firms with political tie? Whether and how such soft lending post a cost on banks? Political connection lending is a special kind of related lending documented by La Porta et al (2002). There are two opposite views about this question. The positive view is why political connected firms may easily access bank loans can be defended on profitability grounds Political tie can be seen as "reputation of profitability" because a large literature documents that politically connected firms outperform companies without relationship when institutional constraints are weak (e.g., Dinc, 2005; Fishman, 2001; Johnson and Mitton, 2003). Therefore, it is optimal lending decision by banks to grant more loans to firms with political tie. We term this "Reputation" hypothesis. The opponent view is that politically connected lending allows politicians (i.e., local and central government officers) to divert bank resources to their related companies no matter whether politically connected firms have a promising project. In China, stated-owned "Big Four" banks dominate Chinese banking system and government has huge influence on banks' operation especially lending decisions. For example, in the 1990s, government have regulations about banks' lending amount, banks' lending priority among different firms, even interest ceiling. Thus, "Big Four" banks dominated banking sector in China are low efficient in lending decisions. It is easier for government officers to

⁵ Classes and Fan (2006) say that relationship-based transaction is popular in business world in emerging and transition markets.

help politically connected firms to get bank loans more no matter firms' profitability or risks. Under this circumstance, politically connected CEOs could seek politicians' help to get bank loan as much as they want even when firms are shrinking. We term this "rent-seeking" hypothesis. Therefore, whether politically connected lending is a cost to banking sector in China still is an empirical question.

The first hypotheses are:

Hypothesis 1a: Debt granted by banks to firms with political tie is less sensitive to those firms' profitability compared to firms without political tie (Rent-seeking hypothesis).

Hypothesis 1b: The sensitivity between debt granting by banks and firms' profitability is indifference between firms with political tie and firms without political tie (Reputation hypothesis).

Next, we develop hypothesis about the consequences of politically connected lending on firms' performance. As M&M theory suggested, any financing frictions will reflect on firms' investment decisions in the presence of market imperfections. Besides information asymmetry and agency problem, soft lending in banks is financing friction of consequence, which undermines their primary function of allocating scarce capital efficiency. This is a particularly serious problem in China, which is lack of efficient law enforcement and property rights protection. In this study, we use firms' investment decision and investment efficiency as an example for a major decision that might be influenced by soft lending. in the special context of China, it is reasonably predicted that politically connected lending could hurt firms' investment efficiency. First, in prior research, political connection is rent-seeking tool to extract private benefits. In the context of China, managers could use their political connection to get bank loan as much as they can. However, after political connection brings more funds to firms, firms will invest more no matter whether they have promising investment opportunities. For example, managers can pursue "empire-building" and expand

firms fast, which increase the likelihood of promotion and compensation of CEOs. This is serious problem for firms with low-growth opportunities but with political tie. Second, banks behavior determines the hardness of the budget constraints facing enterprises, and thus influences firms' investment incentives in China. Theory of financial intermediation emphasize that **large debtholders such as banks have strong incentives to monitor the managerial behavior of client firms by screening and maintaining the close relationship (Diamond, 1984; Fama,1985).** However, being connected with bureaucrats provides firms with a comparative non-economic advantage of access to debt in China. as a consequence, politically connected lending is accompanied by less monitoring posted by banks. Such soft budget constraints can reduce managers' incentive to invest efficiently but provide convenient for managers to pursue personal benefits.

The second hypotheses are:

Hypothesis 2: political connected firms' investment efficiency is lower than that of firms without such tie and the negative effect is more pronounced for low growth firms.

China's highly decentralized political and economic systems provide large variation in institutional environments across its provinces and special districts, while its language, culture, and social norm remain unified (Fan, Huang, Oberholzer-gee, Zhao, 2007). This provides a natural setting to examine how institutional constraints affect political connection lending's impact on firms' investment efficiency. Therefore, we develop hypothesis about this. Better institution environment can reduce the ability of political connection to access to bank debt and then reduce the possibility of wasting money by political connection firms, especially for those with low growth opportunities. For example, Barth, Lin, Lin, and Song (2007) find that greater competition in banking, objective courts and better law enforcement, more private monitoring of banks, and information sharing help to curtail corruption in bank lending. In this study, we consider three institution variables (i.e., region GDP per capital,

government service quality, and financial market development) to curtail misallocation of scarce resources.

Hypothesis 3: negative relation between political connection lending and firms' investment efficiency is less pronounced in regions with better institution environment in China.

3. Data and Research Design

3.1 Data and Sample

We get financial data and market return data from the China Stock Market and Accounting Research (CSMAR) database. We start with all companies that are listed on the Shanghai Stock exchange and the Shenzhen Stock exchange during 1999 to 2005 period because only since 1998 China Securities Regulatory Commission requires firms to report capital expenditure information in Cash Flow Statement. The observation can be kept in the final sample after they meet the below criteria: first, they are non-financial services firms; second, each firm must have at least 4-year constituent data; third, there are at least eight observations for a given industry and a given year. With these sample selection criteria, we obtain 4,012 firm-year observations with sufficient capital expenditure, lagged stock price, investment opportunities, other firm characteristics, and region development data. In order to eliminate the influence of outliers, we also winsorize the top and bottom one percent of all firm-level variables. Table 1 provides a description of the sample over the period 1999 to 2005 (Panel A) and over the industries (Panel B).

Insert Table 1

Political connection of CEO data come from the annual reports because the annual reports of Chinese companies contain a brief biographical sketch of the CEO, listing previous positions in industry, army, and government (Fan, Wong, and Zhang, 2007). Following their

definition of political connection of CEO, we manually code whether a CEO held a position in a central or local (provincial) government⁶ before or current. In China, almost 35% firms have a political connected CEO. This number is 36% for state-owned firm and 29% for non-state owned firms. We have to admit that we cannot identify all the political tie of CEO because it still exist other types of political tie such as friend or classmate of beaucrats⁷. These unobserved political connections of CEO bias again our hypothesis. GDP per capita data come from China Information Bank Online. We get the region development data: government quality and financial development from Fan and Wang (2006). The detailed variable definitions are listed in Appendix A.

3.2 Methodology

In this subsection we discuss how we measure the bank lending incentives and how we measure the firms' investment efficiency.

To understand banks' lending incentives, we assume that reduced distortion in lending and subsequent improvement in banks' monitoring and screening abilities should reduce the provision of credit to firms that subsequently perform poorly (Bertrand, Schoar, and Thesmar, 2007). The sensitivity between new debt and firms' performance is used to proxy for whether banks make optimal lending decision here. Estimation model is as follows:

$$\Delta DEBT_t = \alpha + \beta_1 ROS_{t-1} + \beta_2 Tangibility_{t-1} + \beta_3 SIZE_{t-1} + \beta_4 politicalceo * ROS_{t-1} + \beta_5 politicalceo * Tangibility_{t-1} + IndustryFixed + YearFixed + \varepsilon \quad (1)$$

⁶ In China, there are over 100 local or central government. We don't list government names here and they are under request.

⁷ Faccio (2006) defined a company as being connected with a politician if at least one of its largest shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, or is closely related to a top politician or party. Fan, Rui, and Zhao (2008) defined a company as being connected with a politician if they directly payment to politician (corruption case). Claessens, Feijen, Laeven (2008) proxy political connections by individuals firms buy through contributing to campaigns of election candidates.

Where $\Delta DEBT_t$ measures the firm-level change in bank debt in current year; ROS_{t-1} is firm-level 1-year lagged performance in the rate of return on sales⁸. β_4 measures whether the sensitivity of new debts and firms' ROS is affected by firms' political connection. If political connection is a significant violation factor in debt market, β_4 is predicted to be negative, which is consistent with rent seeking hypothesis. On the other hand, if political connection is a proxy for reputation of profitability, β_4 is predicted to be non-negative. We also control firms' size and tangibility. Year fixed effects and industry fixed effects are included in the regressions and standard errors are clustered at the firm level

Regarding to firms' investment efficiency, we follow Bushman et al (2006)'s idea: relate investment growth to changes in investment opportunities (marginal Q). Based on Q-theory of optimal investment, Bushman et al (2006) developed the following model to test firms' investment efficiency: The model is as follows:

$$\ln\left(\frac{I_t}{I_{t-1}}\right) = \alpha + \lambda_1 \ln\left(\frac{Q_t}{Q_{t-1}}\right) + \lambda_2 \text{political} * \ln\left(\frac{Q_t}{Q_{t-1}}\right) + \lambda_3 \text{SIZE} + \lambda_4 Q_{t-1} + \lambda_5 \text{SIZE} * \ln\left(\frac{Q_t}{Q_{t-1}}\right) + \lambda_6 Q_{t-1} * \ln\left(\frac{Q_t}{Q_{t-1}}\right) + \text{YearDummies} + \text{IndustryDummies} + \varepsilon \quad (2)$$

Where $\ln(I_t/I_{t-1})$ measures investment growth of firm i in year t as the log of ratio of current to lagged additions to total assets. This growth variable captures the firms' decision to increase or decrease investment spending in year t. ΔQ_{t-1} measures the changes in marginal Q (i.e., changes in investment opportunities), which is estimated as logarithm of one plus lagged industry return. Thus, λ_1 captures the investment response to an expansion of investment opportunities, that is, investment efficiency measure. λ_2 is the coefficient on interaction between firms' investment efficiency and political connection dummy. Our empirical

⁸ If we use return on asset (ROA) as a performance measure, results don't change.

predictions are that $\lambda_2 < 0$ consistent with hypothesis 2. We also control two firm-specific factors: firms' book-to-market ratio and total assets (proxy for firm size) at the beginning of the year. Year fixed effects and industry fixed effects are included in the regressions. Standard errors are clustered at the firm level.

Insert Table 2 and Table 3

Panel A of Table 2 presents the descriptive statistics for the sample over the period 1999 to 2005. The average debt growth rate is 5%, which indicate that banks are till the important external financing resources in China. The average firm-level investment growth change is 0.09 and annually capital expenditure is 8 percent of total assets. These two figures are larger than those in cross-country study, because China is hot and fast growth transition economy. Panel A of table 2 show the firm characteristics comparison between political-connected firms and non-political-connected firms. We can see they are indeed different at performance, tangibility, and debt level. Table 3 is correlation matrix and shows that new debt granted is significantly positively related to firms' one-year lagged ROS (corr=0.14, p<0.01). In addition, investment growth is significantly related to investment opportunities changes (corr=0.11, p<0.01).

4. Empirical Results

In this section, we analysis multiple regressions and provide empirical evidences for hypothesis 1-hypothesis 3.

4.1 Banks' Lending Incentives and Firms' Investment Efficiency: Political Tie

Insert Table 4

Table 4 presents the results supporting rent-seeking hypothesis (Hypothesis 1a). First, indicating firms' new granted debt is significantly related to firms' past performance ($t=10$, $p<0.01$). Second, in interaction models, coefficient on the interaction between political connection dummy and lagged ROS is $-0.05(t=2.50, p<0.05)$, which consistent with rent-seeking hypothesis. What's more, coefficient on the interaction between political connection dummy and lagged ROS is only significant for SOEs but non-SOEs. This empirical evidence supports prior research about the creation of political connection for private firms. The main purpose of political connection creation by private firms is to mitigate failures in financial markets and product markets. Therefore, in some sense politically connected lending is not optimal lending decision by banks for banks profitability and banks' stability. And possibly it is one of causes of huge non-performance loans in "Big Four" state-owned banks in China.

Insert Table 5

Based on Table 4, we can say politically connected lending post costs on banks in China. On the other hand, politically connected lending also post costs on firms themselves. To illustrate the cost of political connected lending, we estimate equation (2) to show whether political connection could reduce firms' investment efficiency. Hypothesis 2 predicts politically connected firms' investment efficiency is lower than that of firms without such tie. Table 5 provides support evidences for this. Consistent with hypothesis 2, coefficient on the interaction between political connection dummy and investment opportunities changes is -0.25 ($t=-1.92, p<0.1$), suggesting that sensitivity of investment spending to investment opportunities is lower for firms with political tie. These results only exist in SOEs sub-sample. There are two explanations: one is that state-owned firms face double agent problems and

thus local and central government offices have less incentive and abilities to monitor firms' behavior compared private firms' controlling owners. The other is that Chinese government makes regulations on manager's compensation in state-owned firms, which should not exceed the 14 fold of average employee's salary. Under this compensation regulation, managers in state-owned firms are more likely to pursue private benefits through invest more but not efficiently. Results in Table 5 suggest that easily access to financing intensify the agency problems in state-owned firms and reduce firms' investment efficiency.

Insert Table 6

To further illustrate our arguments, we also examine whether distortion of banking lending related to political connection jeopardizes investment efficiency of firms with more agency problem. That is, the abuse of debt is expected to be more likely in firms with poor investment opportunities and more free cash flows. After distorted banks' lending, banks have less incentive to monitor firms' investment decision. On the other hand, politically connected firms with low growth opportunities more likely waste money in negative NPV projects when they can easily access to debt financing. Here we focus on growth opportunities and use it to proxy for the agency problem in firms. Following prior research, we classify firms into Low Growth Group if firms' market to book ratio is lower than average market to book ratio in a given year and High growth otherwise. We estimate the equation (2) for low and high growth group separately. Table 6 reports the results about political connection and investment change responding to investment opportunities changes. The estimated coefficient on the interaction between political connection dummy and investment opportunities changes is significantly negative for low growth firms. For instance, coefficient

on the interaction between political connection dummy and investment opportunities changes is -0.35 significant at 5% level for low growth firms.

Insert table 7

Above empirical results indicate that politically connected firms invest less efficiently. One possible channel is that politically connected firms abuse of such soft lending. We investigate this issue in Table 7. We classify firms into three “abnormal access to debt financing” groups based on two criteria: industry-adjusted debt ratio and change debt ratio. Table 7 reports the results for high, median, and low “abnormal access to debt financing” groups. Results in Panel A of Table 7 are based on industry-adjusted debt ratio classification and results in Panel B are based on change debt ratio classification. It is predicted that firms would abuse abnormal loans through political connection than they needed. Here we focus on whether distortion of banking lending related to political reason jeopardizes investment efficiency of firms with abnormal debt financing. As predicted, the estimated coefficient on the interaction between political connection dummy and investment opportunities changes is significantly negative for firms’ access to abnormal debt financing. For example, coefficient on the interaction between political connection dummy and investment opportunities changes is -0.498 significant at 5% levels for high “abnormal access to debt financing” firms based on industry-adjusted debt ratio. The results still hold for high “abnormal access to debt financing” firms based on change debt ratio.

Taken together, firms with political tie invest less efficiently than firms without political tie. Moreover, the negative relation between politically connected lending and firms’ investment efficiency is more pronounced for SOE firms, low growth firms, and abnormal

access to debt financing. Those results suggest that politically connected lending reduce firms' investment efficiency because of abuse of such soft lending.

4.2 Banks' Lending Incentives and Firms' Investment Efficiency: Region Development Effect

Insert table 8

Here we investigate hypothesis 3 that predicts the impact of politically connected lending on firms' investment efficiency would depend on the degree of region development in terms of government quality and financial market development. I classify regions into two groups based on three region development measures: GDP per capita, government quality index, and financial market development. Then we estimate equation (2) for different groups. Table 8 presents the comparison results. The negative relation between political connection dummy and firms' investment efficiency is significantly larger in regions with weak institution environment. For example, coefficient on the interaction between political connection dummy and investment opportunities changes is -1.075 and significant at 1% levels in regions with lower government quality. In sum, institution development could curtail the negative impact of soft lending on firms' decision with regard to investment decision.

5. Conclusion

Despite recent studies documents the value of politically connected CEOs on firms' value, there is little evidence on the cost of political connection of CEOs. This paper studies the cost of political connection of CEOs on banks and on firms themselves. The analysis based on a sample of 4,012 firm-year observations of China listed firms from 1999 to 2005. First, being connected with bureaucrats provides firms with a comparative non-economic advantage of

access to debt, in particular long-term debt in China. My results show that loans granted to politically connected firms are less sensitive to those firms' profitability. The findings suggest that political connection of CEOs is significant violation factor in debt market and cause sub-optimal lending decision by banks.

Second, any friction in financial market would reflect in firms' investment decision. In China, banks are still the most important financing resources for firms until now. Distortion factor, that is political connection, could affect firms' investment decision. As predicted, I find that firms with political tie invest less efficiently than firms without political tie. Moreover, the negative relation between banks' lending incentives related to political connection and firms' investment efficiency is stronger for SOE firms and low growth firms. Finally, I find that region development with regard to financial development and government quality improvement reduces the misallocation of credits and improves firms' investment efficiency.

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Appendix: Variable Definition

Variable	Definition	Data Source
<i>Variables</i>		
PoliticalCEO	A dummy variable equal to one if a firm's CEO is or has work in government, such as local or central government, army, court, and so on.	Annual Reports
SOE	A dummy variable equal to one if a firm's ultimate is the state, otherwise equal to zero if a firm's ultimate is the individual.	Annual Reports
Ch_Debt _{t-1}	A measure of new debt in year t, calculated as the change of a firm's debt level in year t	CSMAR
ROS _{t-1}	A measure of a firm's performance, calculated as the one-year lagged return on sales	CSMAR
Tangibility _{t-1}	A measure of a firm's physical assets, calculated as the one year lagged net fixed assets over total assets	
Log (I _{i,t} /I _{i,t-1})	Investment growth of firm i in year t, measured as the log of ratio of current to lagged capital expenditure additions to total assets	CSMAR
RET _{j,t-1}	Lagged industry stock returns in industry j, measured as the log of one plus the average holding period stock return, including dividends, for industry j, over the firms' preceding fiscal year. Industries are defined as China Securities Regulatory Commission industries	CSMAR
Growth _{t-1}	The firms' market-to-book ratio at the beginning of fiscal year t, measured as market value of equity and debt divided by book value of equity and debt. Growth is calculated as the log of one plus market-to-book ratio	CSMAR
Tobin _{t-1}	The firms' market-to-book ratio at the beginning of fiscal year t, measured as market value of equity and debt divided by book value of equity and debt.	CSMAR
Size	Firm size, calculated as the log of total assets at	CSMAR

	year t	
I_t	The firms' investment level in year t, measured as firms' capital expenditure divided by total assets in year t-1.	CSMAR
CF_t	Cash flow from operation, calculated as EBIT plus depreciation and amortization	
$Debt_{t-1}$	The firms' total debt level in year t-1.	CSMAR
<i>Region Development Variables</i>		
GDP per capita	GDP per capital for region during 1999-2005	Chinainfo Bank
Government Quality	A provincial index constructed to be inversely related to the number of local government bureaucrats and staffs divided by regional population.	Fan and Wong (2006)
Financial market development	A provincial index ix based on the ratio of credits provided to private sector over total credits of financial institution	Fan and Wong (2006)

Table 1: Sample Distribution

This table summarizes the sample distribution by year and by industry. Industry category in Panel B is based on China Securities Regulatory Commission industry classification. The final sample contains 4,012 firm-year observations over the period 1999 to 2005.

Panel A: Sample Distribution across year

Year	N
1999	320
2000	422
2001	549
2002	683
2003	685
2004	680
2005	673

Panel B: Sample Distribution by industry

Industry	N	Freq.
Mining	32	0.80%
Social Service	103	2.57%
Information technology	134	3.34%
Other manufacturing	48	1.20%
Conglomerate	294	7.33%
Electron, other Electron equipment	104	2.59%
Paper, Paper product, and Printing	56	1.40%
Cloths and Fur	179	4.46%
Equipment Manufacturing	545	13.58%
Metal and non-Metal	379	9.45%
Oil and Oil-related product manufacturing	524	13.06%
Food and Drink	208	5.18%
Communications equipment manufacturing	114	2.84%
Pharmaceutical and Medicine Manufacturing	339	8.45%

Utilities	214	5.33%
Real Estates	60	1.50%
Construction	52	1.30%
Transportation suppliers	160	3.99%
Agriculture, Forestry, Fishing, and Hunting	100	2.49%
Wholesale and retailing	367	9.15%
Total	4012	100.00%

Table 2: Descriptive Statistics

This table presents descriptive statistics for the full sample of 4,012 firm-year observations over the period 1999 to 2005. Variables definitions are listed in Appendix A.

Panel A: firm-level variables

Variable	Mean	Std.	Min	25th	Median	75th	Max
Ch_Debt _{t-1}	0.05	0.12	-0.25	-0.01	0.03	0.10	0.50
Size	21.12	0.83	19.21	20.55	21.03	21.63	23.48
ROS _{t-1}	0.11	0.16	-1.26	0.04	0.09	0.16	0.66
Tangibility _{t-1}	0.37	0.18	0.03	0.22	0.35	0.49	0.81
Log (I _{i,t} /I _{i,t-1})	0.09	1.09	-3.50	-0.51	0.08	0.67	3.67
GROWTH	1.29	0.40	0.64	1.00	1.25	1.54	2.57
RET _t	-0.04	0.27	-0.40	-0.23	-0.15	0.12	0.59
I _t	0.08	0.08	0.00	0.02	0.05	0.11	0.38
TOBIN _{t-1}	2.97	1.83	0.89	1.70	2.49	3.67	12.10
CF	0.08	0.08	-0.23	0.05	0.08	0.12	0.34
DEBT _{t-1}	0.23	0.14	0.00	0.12	0.23	0.33	0.64
SOE	0.80	0.40	0.00	1.00	1.00	1.00	1.00
PoliticalCEO	0.35	0.48	0.00	0.00	0.00	1.00	1.00

Panel B: firm characteristics comparison between firms with political tie and firms without political tie

	Political Connection		P-value
	No	Yes	
Ch_Debt _{t-1}	0.05	0.05	0.60
Size	21.12	21.12	0.98
ROS _{t-1}	0.10	0.12	0.00
Tangibility _{t-1}	0.36	0.38	0.01
Log (I _{i,t} /I _{i,t-1})	0.10	0.07	0.48
GROWTH	1.29	1.30	0.23
RET _t	-0.04	-0.04	0.81
I _t	0.08	0.08	0.50
TOBIN _{t-1}	2.94	3.00	0.33
CF	0.08	0.09	0.54
DEBT _{t-1}	0.24	0.22	0.01
SOE	0.78	0.83	0.00

Table 3: Correlation Matrix

This table presents correlation matrix for the full sample of 4,012 firm-year observations over the period 1999 to 2005. Variables definitions are listed in Appendix A.

	Ch_Debt_{t-1}	Size	ROS_{t-1}	Tangibility_{t-1}	Log (I_{i,t}/I_{i,t-1})	GROWTH	RET_t
Size	-0.08 <i>0.00</i>	1.00					
ROS_{t-1}	0.14 <i>0.00</i>	0.02 <i>0.14</i>	1.00				
Tangibility_{t-1}	0.06 <i>0.00</i>	0.21 <i>0.00</i>	0.12 <i>0.00</i>	1.00			
Log (I_{i,t}/I_{i,t-1})	0.21 <i>0.00</i>	-0.02 <i>0.28</i>	0.09 <i>0.00</i>	-0.11 <i>0.00</i>	1.00		
GROWTH	0.14 <i>0.00</i>	-0.52 <i>0.00</i>	0.25 <i>0.00</i>	-0.21 <i>0.00</i>	0.14 <i>0.00</i>	1.00	
RET_t	0.09 <i>0.00</i>	-0.14 <i>0.00</i>	0.18 <i>0.00</i>	-0.03 <i>0.04</i>	0.11 <i>0.00</i>	0.44 <i>0.00</i>	1.00
I_t	0.41 <i>0.00</i>	0.06 <i>0.00</i>	0.16 <i>0.00</i>	0.29 <i>0.00</i>	0.43 <i>0.00</i>	0.06 <i>0.00</i>	0.04 <i>0.03</i>
TOBIN_{t-1}	0.14 <i>0.00</i>	-0.49 <i>0.00</i>	0.22 <i>0.00</i>	-0.20 <i>0.00</i>	0.13 <i>0.00</i>	0.96 <i>0.00</i>	0.43 <i>0.00</i>

CF	0.25	0.10	0.34	0.24	0.16	0.25	0.11
	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
DEBT_{t-1}	-0.04	0.14	-0.25	0.10	-0.09	-0.26	-0.07
	<i>0.01</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
SOE	-0.06	0.23	0.05	0.15	0.04	-0.06	0.01
	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.02</i>	<i>0.00</i>	<i>0.42</i>
PoliticalCEO	0.01	0.00	0.06	0.04	-0.01	0.02	0.00
	<i>0.60</i>	<i>0.98</i>	<i>0.00</i>	<i>0.01</i>	<i>0.49</i>	<i>0.23</i>	<i>0.81</i>

	I_t	TOBIN_{t-1}	CF	DEBT_{t-1}	SOE	PoliticalCEO
TOBIN_{t-1}	0.05	1.00				
	<i>0.00</i>					
CF_t	0.32	0.23	1.00			
	<i>0.00</i>	<i>0.00</i>				
DEBT_{t-1}	-0.03	-0.23	-0.17	1.00		
	<i>0.07</i>	<i>0.00</i>	<i>0.00</i>			
SOE	0.02	-0.07	0.09	-0.10	1.00	
	<i>0.16</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>		
PoliticalCEO	0.01	0.02	0.01	-0.04	0.06	1.00
	<i>0.50</i>	<i>0.33</i>	<i>0.54</i>	<i>0.01</i>	<i>0.00</i>	

Table 4: distortion in banks' lending

This table presents pooled regression OLS coefficients of a model predicting the influence of firms' political connection on banks' lending decision. All variables are defined in Appendix A. Standard error is presented in bracket and corrected for time-series correlation using Huber-White standard error clustered by firms. ⁺, *, and ** indicate significance at 0.1, 0.05, and 0.01 percent levels.

	Basic Model			Interaction Model		
	Full Sample	SOE	Non-SOE	Full Sample	SOEs	Non-SOEs
Size_{t-1}	-0.01** (0.00)	-0.01** (0.00)	-0.01 (0.01)	-0.01** (0.00)	-0.01** (0.00)	-0.01 (0.01)
PoliticalCEO	-0.00 (0.00)	-0.00 (0.00)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.06* (0.02)
ROS_{t-1}	0.10** (0.01)	0.10** (0.02)	0.10** (0.03)	0.12** (0.02)	0.14** (0.03)	0.09** (0.03)
ROS_{t-1}						
PoliticalCEO				-0.05 (0.02)	-0.07* (0.03)	0.00 (0.05)
Tangibility_{t-1}	0.04** (0.01)	0.04** (0.02)	0.03 (0.03)	0.05** (0.02)	0.04* (0.02)	0.08* (0.04)
Tangibility_{t-1}						
PoliticalCEO				-0.03 (0.03)	0.00 (0.03)	-0.16 (0.06)

Constant	0.26** (0.06)	0.24** (0.07)	0.24 ⁺ (0.14)	0.25** (0.06)	0.23** (0.07)	0.20 (0.14)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	4011	3195	816	4011	3195	816
Adj. R²	0.04	0.04	0.05	0.04	0.04	0.05

Table 5: The Influence of Political Tie on Firms' Investment Efficiency

This table presents pooled regression OLS coefficients of a model predicting the influence of firms' political connection on firms' investment efficiency. All variables are defined in Appendix A. Standard error is presented in bracket and corrected for time-series correlation using Huber-White standard error clustered by firms. ⁺, **, and *** indicate significance at 0.1, 0.05, and 0.01 percent levels.

	Ownership		
	Full sample	SOEs	Non-SOEs
RET_t	0.72 (2.51)	0.21 (2.71)	-2.79 (7.13)
PoliticalCEO	-0.05 (0.03)	-0.07* (0.03)	-0.00 (0.09)
RET_t*PoliticalCEO	-0.25⁺ (0.13)	-0.25⁺ (0.14)	-0.33 (0.34)
GROWTH	0.38** (0.06)	0.35** (0.06)	0.58** (0.14)
GROWTH*PoliticalCEO	0.10 (0.26)	0.27 (0.27)	-0.19 (0.68)
Size	0.08** (0.02)	0.06** (0.02)	0.12* (0.06)
Size*PoliticalCEO	-0.03 (0.11)	-0.02 (0.12)	0.21 (0.32)
Constant	-1.97** (0.48)	-1.51** (0.53)	-3.07* (1.31)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	4012	3196	816
Adj. R²	0.03	0.02	0.03

Table 6: influence of political tie on firm's investment efficiency conditional on firms' growth opportunities

This table presents pooled regression OLS coefficients of a model predicting the influence of political connection on investment efficiency of firms with or without good investment opportunities. All variables are defined in Appendix A. Standard error is presented in bracket and t-statistics are corrected for time-series correlation using Huber-White standard error clustered by firms. ⁺, **, and *** indicate significance at 0.1, 0.05, and 0.01 percent levels. Grouping criteria for column (1) and (2) is firms' growth opportunities, measured as market of equity and debt to book ratio.

	High Growth Firms			Low Growth Firms		
	Full sample	SOE	Non-SOE	Full Sample	SOE	Non-SOE
RET_t	2.30 (4.33)	2.64 (4.95)	-3.92 (10.22)	0.36 (3.21)	0.42 (3.35)	-4.12 (11.51)
PoliticalCEO	0.02 (0.05)	-0.01 (0.06)	0.08 (0.15)	-0.09* (0.04)	-0.10* (0.04)	-0.10 (0.13)
RET_t*PoliticalCEO	-0.16 (0.23)	-0.16 (0.25)	-0.21 (0.50)	-0.35* (0.16)	-0.30⁺ (0.17)	-0.60 (0.48)
GROWTH	0.38** (0.11)	0.40** (0.13)	0.48 ⁺ (0.27)	0.67** (0.12)	0.64** (0.12)	0.83* (0.32)
GROWTH*PoliticalCEO	0.20 (0.46)	0.78 (0.51)	-1.17 (1.10)	-0.21 (0.40)	-0.34 (0.43)	0.44 (1.18)
Size	0.02 (0.04)	0.00 (0.04)	0.07 (0.09)	0.11* (0.03)	0.07* (0.03)	0.18 ⁺ (0.10)

Size*PoliticalCEO	-0.10 (0.20)	-0.17 (0.22)	0.34 (0.49)	0.00 (0.14)	0.00 (0.14)	0.26 (0.51)
Constant	-0.92 (0.84)	-0.72 (0.94)	-1.92 (1.94)	-2.78** (0.73)	-2.01** (0.76)	-6.54** (2.20)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	1604	1228	376	2408	1968	440
Adj. R²	0.02	0.02	0.01	0.03	0.03	0.01

Table 7. Influence of political tie on firm's investment efficiency conditional on access to abnormal financing

This table presents pooled regression OLS coefficients of a model predicting the influence of political connection on investment efficiency of firms with access to abnormal debt financing or not. All variables are defined in Appendix A. Standard error is presented in bracket and t-statistics are corrected for time-series correlation using Huber-White standard error clustered by firms. ⁺, **, and *** indicate significance at 0.1, 0.05, and 0.01 percent levels. Abnormal debt financing is defined as the industry-adjusted debt level and classified into three groups.

Panel A: firm characteristics comparison between firms with high abnormal debt financing and firms with low abnormal debt financing

	Abnormal Debt Level		
	Low	High	P-value
Ch_Debt_{t-1}	0.00	0.10	0.00
Size	21.08	21.24	0.00
ROS_{t-1}	0.13	0.08	0.00
Tangibility_{t-1}	0.35	0.38	0.00
Log (I_{i,t}/I_{i,t-1})	0.07	0.07	0.98
GROWTH	1.35	1.21	0.00
RET_t	-0.04	-0.04	0.87
I_t	0.07	0.09	0.00
TOBIN_{t-1}	3.20	2.62	0.00
CF	0.09	0.07	0.00
DEBT_{t-1}	0.10	0.36	0.00

SOE	0.83	0.76	0.00
PoliticalCEO	0.38	0.35	0.09

Panel B: Political Connection and firms' investment efficiency conditional on abnormal debt financing –industry-adjusted debt

	High Abnormal Debt level			Meddle Abnormal Debt Level			Low Abnormal Debt Level		
	Full	SOE	Non-SOE	Full	SOE	Non-SOE	Full	SOE	Non-SOE
RET_t	7.57	9.50 ⁺	-1.08	5.48	3.79	2.72	-7.55 ⁺	-8.61 ⁺	-3.43
	(4.72)	(5.21)	(12.54)	(4.34)	(4.64)	(13.93)	(4.40)	(4.84)	(13.77)
PoliticalCEO	-0.04	-0.05	0.02	0.03	0.01	0.14	-0.12 ⁺	-0.12 ⁺	-0.25
	(0.05)	(0.06)	(0.16)	(0.06)	(0.06)	(0.21)	(0.06)	(0.06)	(0.21)
RET_t									
PoliticalCEO	-0.50	-0.55*	-0.01	-0.00	-0.01	0.07	-0.18	-0.11	-0.81
	(0.22)	(0.23)	(0.71)	(0.24)	(0.24)	(0.75)	(0.26)	(0.28)	(0.64)
GROWTH	0.78**	0.78**	0.79**	0.29*	0.28*	0.30	0.22*	0.18	0.47
	(0.11)	(0.13)	(0.22)	(0.12)	(0.11)	(0.38)	(0.10)	(0.11)	(0.33)
GROWTH									
*PoliticalCEO	-0.59	-0.68	-0.16	-0.13	0.11	-0.51	0.62	0.80	-0.44
	(0.54)	(0.55)	(1.31)	(0.39)	(0.38)	(1.31)	(0.50)	(0.57)	(1.12)
Size	0.09*	0.09 ⁺	-0.02	0.04	0.02	-0.05	0.11**	0.07 ⁺	0.34*
	(0.04)	(0.05)	(0.11)	(0.04)	(0.04)	(0.20)	(0.04)	(0.04)	(0.13)

Size									
*PoliticalCEO	-0.30	-0.39 ⁺	0.12	-0.22	-0.16	0.04	0.31 ⁺	0.34 ⁺	0.26
	(0.20)	(0.22)	(0.57)	(0.19)	(0.20)	(0.60)	(0.19)	(0.20)	(0.63)
Constant	-2.77**	-2.65*	-0.21	-1.18	-0.80	0.50	-2.19*	-1.54	-8.62**
	(1.03)	(1.17)	(2.34)	(1.02)	(0.91)	(4.37)	(0.96)	(1.02)	(2.80)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1364	1031	333	1324	1062	262	1324	1103	221
Adj. R²	0.05	0.04	0.05	0.02	0.03	0.01	0.01	0.01	0.01

Panel C: Political Connection and firms' investment efficiency conditional on abnormal debt financing –new debt level

	High Abnormal Debt level			Meddle Abnormal Debt Level			Low Abnormal Debt Level		
	Full	SOE	Non-SOE	Full	SOE	Non-SOE	Full	SOE	Non-SOE
RET_t	3.99	3.52	2.84	-3.90	-2.64	-31.03*	-1.41	-3.56	15.75
	(4.01)	(4.08)	(12.48)	(4.11)	(4.22)	(13.23)	(4.97)	(5.32)	(17.80)
PoliticalCEO	-0.03	-0.06	0.06	-0.04	-0.07	0.04	-0.08	-0.07	-0.22
	(0.05)	(0.06)	(0.15)	(0.07)	(0.07)	(0.20)	(0.06)	(0.06)	(0.22)
RET_t									
PoliticalCEO	-0.40	-0.44 ⁺	-0.43	-0.14	-0.11	-0.20	-0.31	-0.27	-0.88

	(0.20)	(0.22)	(0.54)	(0.26)	(0.27)	(0.75)	(0.26)	(0.28)	(0.82)
GROWTH	0.35**	0.38**	0.39	0.30*	0.21 ⁺	0.73	0.44**	0.43**	0.33
	(0.11)	(0.13)	(0.27)	(0.12)	(0.12)	(0.50)	(0.12)	(0.13)	(0.33)
GROWTH									
*PoliticalCEO	-0.31	-0.07	-0.79	0.29	0.25	0.92	0.44	0.60	-0.38
	(0.38)	(0.40)	(1.08)	(0.52)	(0.54)	(1.63)	(0.53)	(0.59)	(1.24)
Size	0.03	0.06	-0.14	0.10*	0.05	0.36*	0.10*	0.08 ⁺	0.05
	(0.05)	(0.05)	(0.14)	(0.04)	(0.04)	(0.15)	(0.04)	(0.04)	(0.17)
Size									
PoliticalCEO	-0.14	-0.15	0.02	0.14	0.08	1.43	0.06	0.15	-0.682
	(0.17)	(0.18)	(0.55)	(0.18)	(0.18)	(0.57)	(0.21)	(0.22)	(0.800)
Constant	-0.78	-1.38	1.79	-2.17*	-1.01	-8.29*	-2.58**	-2.15*	-2.58
	(1.09)	(1.17)	(3.10)	(1.01)	(1.04)	(3.36)	(0.99)	(1.04)	(3.55)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1364	1036	328	1197	962	235	1451	1198	253
Adj. R²	0.01	0.01	-0.02	0.01	-0.00	0.03	0.02	0.02	-0.00

Table 8: institution effect and influence of political tie on firm's investment efficiency

This table presents pooled regression coefficients of a model predicting the influence of political connection on firms' investment efficiency depending on region institution environment. All variables are defined in Appendix A. Standard error is presented in bracket and t-statistics are corrected for time-series correlation using Huber-White standard error clustered by firms. ⁺, **, and *** indicate significance at 0.1, 0.05, and 0.01 percent levels.

Panel A: Political Connection and firms' investment efficiency conditional on region institution environment-industry-adjusted debt level

	GDP per capita		Government Quality		Financial Market Development	
	High	Low	High	Low	High	Low
	RET_t	9.04 ⁺ (5.06)	1.88 (12.01)	10.84 ⁺ (6.17)	3.69 (12.61)	3.57 (6.26)
PoliticalCEO	-0.03 (0.07)	-0.13 (0.08)	-0.05 (0.08)	-0.06 (0.13)	-0.01 (0.08)	-0.22* (0.11)
RET_t *PoliticalCEO	-0.48 ⁺ (0.26)	-0.74 ⁺ (0.39)	-0.18 (0.32)	-1.08** (0.38)	-0.39 (0.30)	-0.75 ⁺ (0.45)
GROWTH	0.90** (0.14)	0.52** (0.20)	0.93** (0.19)	0.63* (0.25)	0.85** (0.16)	0.74* (0.29)
GROWTH*PoliticalCEO	-1.20 ⁺ (0.66)	0.63 (0.92)	-0.72 (0.75)	-0.77 (1.28)	-0.94 (0.75)	0.31 (1.10)

Size	0.11*	0.01	0.08	0.07	0.05	0.07
	(0.05)	(0.11)	(0.07)	(0.10)	(0.06)	(0.12)
Size*PoliticalCEO	-0.31	-0.18	-0.47 ⁺	-0.13	-0.12	-0.67
	(0.22)	(0.52)	(0.26)	(0.53)	(0.27)	(0.49)
Constant	-3.41**	-0.28	-2.65	-2.15	-1.66	-2.16
	(1.23)	(2.63)	(1.70)	(2.39)	(1.51)	(3.09)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	989	375	711	411	694	428
Adj. R²	0.04	0.11	0.06	0.06	0.05	0.08

Panel B: Political Connection and firms' investment efficiency conditional on region institution environment-industry- new debts

	GDP per capita		Government Quality		Financial Market Development	
	High	Low	High	Low	High	Low
RET_t	-0.36	16.04*	0.12	-1.60	-6.87	15.01 ⁺
	(4.92)	(7.48)	(5.75)	(7.24)	(5.26)	(8.01)
PoliticalCEO	-0.05	0.02	-0.09	-0.18 ⁺	-0.10	-0.14
	(0.07)	(0.10)	(0.07)	(0.11)	(0.08)	(0.11)
RET_t *PoliticalCEO	-0.40 ⁺	-0.29	-0.37	-0.89*	-0.55*	-0.36
	(0.24)	(0.41)	(0.29)	(0.38)	(0.26)	(0.45)

GROWTH	0.39**	0.28	0.48**	0.71**	0.52**	0.61*
	(0.14)	(0.22)	(0.17)	(0.22)	(0.16)	(0.24)
GROWTH*PoliticalCEO	-0.04	-0.95	-0.19	0.45	0.12	-0.56
	(0.47)	(0.69)	(0.56)	(0.69)	(0.53)	(0.74)
Size	0.05	-0.07	0.01	0.11	0.06	-0.00
	(0.06)	(0.08)	(0.06)	(0.08)	(0.06)	(0.09)
Size*PoliticalCEO	0.06	-0.71*	0.04	0.04	0.32	-0.65 ⁺
	(0.21)	(0.32)	(0.25)	(0.31)	(0.22)	(0.35)
Constant	-1.31	1.58	-0.76	-2.61	-1.33	-0.32
	(1.45)	(1.82)	(1.61)	(1.93)	(1.38)	(2.32)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	937	427	703	388	663	428
Adj. R²	-0.00	0.01	0.00	0.07	0.03	0.02