The Independence of Banks: an Investigation into Changes in Reserve Requirements in China

Meng Miao *

ABSTRACT

This paper examines how Chinese banks re-allocated their loans when their total loans were required be to cut due to a tightening of the Chinese authoritys monetary policy. Employing an event study methodology, we find that those firms with political connections experienced more pronounced decreases in their stock prices compared with non-connected firms. This additional decrease associated with large decreases in bank loans resulted from the larger increase in default probabilities of politically connected firms, and decreases in the probability of being bailed out by the government. In sum, the evidence suggests that Chinese commercial banks are independent from political interventions by the government.

JEL classification: D72 E32 E51 P26.
Keywords: bank's independent, political connection,reserve requirements

*Said Business School, Oxford University, Park End Street, Oxford, Oxfordshire, UK OX11HP, Tel: +447861482418, Email: meng.miao@sbs.ox.ac.uk. I am greateful to Alan Morrison, Tim Jenkinson, Thomas Noe, Mungo Wilson, Peter Tufano, Tarun Ramadorai, Colin Meyer, Ken Okamura, Cristian Badarinza, Michael Devereux for their comments and suggestions. I am greatly in debt to my PhD supervisor Oren Sussman for his brilliant supervision and invaluable comments. All errors are my own.

A great body of literature has argued for the importance of an advanced financial industry in the development of an economy (see Levine, 2006, for a literature review). The financial sector, due to its function of allocating resources efficiently to those sectors that generate profit and enhance productivity, can potentially promote economic growth and social welfare. However, this linkage between financial advances and economic development may not be universal, or it may not apply to developing countries in the same way as it applies in developed countries. Allan, Qian and Qian (2005), in an influential paper, argue that China could be a "counter-example" regarding the positive relationship between a finance sector and economic growth. Specifically, they argue that Chinas recent rapid economic growth has nothing to do with its highly inefficient financial sector. They argue that Chinese commercial banks, due to their state ownership, are subject to a great extent of political intervention. As a result, they act as the conduit of subsidies, in the form of cheap loans from government to those state-owned firms under its control. The main driver of Chinese economic growth, firms in the private sector, are mainly excluded from the formal financial sector. Thus, the politically dependent banking sector and the economic growth that has occurred in the private sector in China is inconsistent with the finance-growth relation that has normally been observed in other countries.

However, the conclusion arrived at by Allan, Qian and Qian relies on one key assumption: the state-owned financial sector in China is completely dependent politically, and is inefficient, and capital allocation decisions are strongly reflect political intentions instead of economic interests. This assumption has been challenged by a series of papers. Using survey data collected by the World Bank, Firth, Lin, Liu, Wong (2009) find that banks tend to lend to those firms with more experienced management and a better track record, and that political connections only play a limited role in banks loan decisions. Ayyagari, Demirguc-Kunt and Maksimovis (2010), using the same data, provide evidence for the efficiency of bank loan decisions. They demonstrate that those firms with loans from banks grow faster compared to those that rely only on informal financial services. They argue that Chinese banks lend to politically connected firms out of economic motives: those firms either grow faster because of government contracts, or they are more likely to be bailed out by the government, so that they are associated with a smaller cost of financial distress. Thus, Ayyagari, Demirguc-Kunt and Maksimovis analysis suggests that the higher level of lending from Chinese banks to connected firms is not necessarily an indication that Chinese firms are politically dependent.

In this paper, we join this debate about whether Chinese banks are politically independent. We propose an innovative method to measure the political independence of commercial banks in China. Specifically, we exploit a series of events of increases in reserve requirements, a monetary tightening policy that greatly curbed the capacity of banks to issue loans. We then compare the stock market reaction of connected and non-connected firms during the periods when news of the reduced bank lending hit the market. Using this setting we can test whether banks are politically independent, because if they are greatly interfered in by the government, then the cumulated abnormal return (CARs) of those connected firms, who are being preferred and supported politically, should be higher

relative to non-connected firms. Whereas if the opposite result is observed, then banks are more likely to be independent: connected firms are much more desirable borrowers from an economic perspective, because poorly-performing connected firms are more likely to default in a period of monetary contraction and the cash-strapped government is less likely to bail them out. We can then draw conclusions about the preferential order of banks regarding who are their prioritized borrowers and who are their marginalized borrowers.

We focus on the adjustment of the reserve requirement implemented by the monetary authority as the exogenous monetary. A reserve requirement sets the compulsory portion of a commercial banks deposits that has to be parked at the central bank's vault. Upward adjustments of reserve requirements are one type of contractive monetary policy, as they decrease the loan-able assets of commercial banks. Banks need to either increase their deposits or liquidate their existing loans or other financial assets in order to make room for more loans. The reserve requirement is likely to be a binding constraint for Chinese commercial banks for three reasons. In recent years, the Chinese Monetary Authority has frequently utilized such a policy in order to sterilize the increase of capital inflow due to the years of trade surplus. Between 2005 and 2011, the PBoC made 37 reserve-requirement adjustments, 33 of them upward adjustments. As a result, the reserve requirement of Chinese commercial banks climbed from 6% in 2006 to a formidably high 21.5% in 2011.

We argue that two characteristics of the reserve requirement are quite crucial for our research. Firstly, the reserve requirement is a binding constraint on the lending behaviour of banks. The already gigantic scale of deposits at Chinese banks and the existing deposit rate ceiling limits the capacity of Chinese banks to attract more deposits. Moreover, Chinese banks find it hard to substitute their other assets with newly issued loans due to various regulations. Due to the illiquid bond market and administrative orders, the majority of bonds held by Chinese commercial banks are "held-to-maturity" bonds (Walter and Howie, 2012). As securitization is not allowed in China, no asset can be easily moved off the banks balance-sheets. As a result, the effect of enhancement of the reserve requirement is quite clear: it is estimated that a mere 0.5% increase in the reserve requirement is estimated to "freeze" assets of 350 billion RMB. Secondly, the adjustment of the reserve requirement should be unanticipated by the market. As with all other policies (Calomiris, Fisman and Wang, 2010), the Chinese governments announcements of the adjustments were not made in accordance with any pre-determined schedule, and no hint of these were leaked to the market. Indeed, the secrecy regarding adjustments enhance their effectiveness. The stock price of all 18 financial institutions decrease by an average level of 1.9%, compared with all other non-financial firms, for each 0.5% upward adjustment of the reserve requirement.

In order to compare the CARs of connected and non-connected firms, we collected a sample of all listed firms in China for which we can observe the daily share price. Following the event study literature, we hypothesize that if politically connected firms are subject to different degrees of impact relative to unconnected firms, the difference should firstly be illustrated by the difference in the immediate stock market reaction. We calculated the CAR for each company for a six-day

window around the event for each of the 37 adjustments of the reserve requirement between 2006 and 2011. We then implemented a panel regression, where all firm-event observations were stacked together as dependent variables. We found that firms with political connections are associated with lower CARs compared to those with no connections. More importantly, the relationship between the CARs and political connection is monotone. Namely, firms with closest political connections, state-owned enterprises (SOEs) affiliated with central government, are also associated with the sharpest decreases while firms with the weakest connection, privately-controlled firms, are associated with the smallest decreases.

We also illustrate that this excessive decrease of the CAR of the connected firms is not a standalone phenomenon only illustrated by fluctuations in stock markets. The differential change in CARs is also confirmed by changes in the loans granted by banks to those listed companies. Compared with the beginning of the monetary circle, which lasted from 2007 to 2009, the total loans issued to the connected firms experienced a much slower increases compared with unconnected firms, suggesting that the decreasing of banks' loans is a resource that dragged down the price of these connected firms.

One advantage of our institutional setting is that the reserve requirement adjustments were implemented many times, so that we can explore the time-series variation of events in terms of the extent to which they were unanticipated. Therefore, instead of imposing the strong assumption that the events were completely unanticipated, we impose the more relaxed assumption that a variation exists in the extent to which the events surprised the market, and our difference between connected/non-connected firms CARs comes from that *additional* unexpected information[1]. We use two different measures to gauge the "unanticipated" factor of the reserve requirement adjustments. Firstly, we use the information regarding the announced Consumer Price Index (CPI) and its time horizon information to infer the anticipated factor of the adjustments. As the main purpose of the adjustment of the reserve requirement is to repress the inflation rate, a high-level CPI index announced a few days earlier would enhance the expectations on the part of the market that another tightening of monetary policy was imminent. Secondly, as the reserve requirement has a major impact on commercial banks, the stock market reactions of the banks can also be used as a measure of the lack of anticipation of the change in the reserve requirement. We use these two measures of unanticipated factors for each event. We find that the difference between politically connected and non-connected firms is much larger for unanticipated events compared to anticipated ones.

The implicit assumption we have applied when interpreting the excessive negative CARs is that the politically connected firms are impaired because banks cut their loans more aggressively. In other words, there is a bank lending channel (Bernanke and Gertler, 1995) that intermediates the decreases of value from banks to politically connected firms. We provide two pieces of evidence that support the validity of the lending channel. Firstly, we find evidence that those firms that are more vulnerable to the adjustment of reserve requirements via bank lending channel are associated with a large difference between connected and non-connected firms. We use two measures for vulnerability: the loan-to-deposit (LTD) ratio, and banks borrowing position in the inter-bank

market. Both measures indicate an excessive level of loan portion[2] and thus a higher vulnerability to any regulation that has the intention of depressing loan issue. We find that the difference in CARs between connected/non-connected firms is more pronounced for those firms that are linked with more vulnerable banks. This suggests that banks are reducing loans to SOEs when their capacity to make loans is limited. Secondly, we illustrate that there is a real effect, namely that the growth of bank loans was smaller for politically connected firms relative to non-connected ones for the period from 2007 to 2009, when the reserve requirement increased from 9% to 16%. Actually, the stagnation in growth was not limited to the total amount of bank loans: the connected firms also lagged behind the non-connected firms in investment, profitability and employment. Moreover, we find that there is some evidence that these decreases in bank loans were partially offset by the utilization of other resources of external finance, such as trade credit, short credit and lower dividends.

We also provide information to exclude the possibility that other channels also cause the observed result. Empirically, we demonstrate that two major alternative hypotheses, the collateral channel and the demand channel, cannot be the root of the difference in CARs. Regarding the collateral channel, we illustrate that among the politically connected firms, those with the largest amount of tangible assets are not associated with a greater extent of decrease, suggesting that the reduced price of pledge-able assets is not the source of the decreased CARs. This result is consistent with the findings of Deng, Gyourko and Wu (2014), who suggest that the collateral channel is not working well in China[3]. Similarly, our result is not likely to be caused by the demand channel because the decrease in stock prices results from the weaker demand brought about by the tightening of the monetary policy: that is, because our result is still unchanged once the investment opportunities, and their interaction with political connection dummies are controlled for, with investment opportunities measured by Tobin's Q or by forecasts by equity analysts.

We then make an attempt to answer the question why commercial banks cut loans to connected firms to a higher degree compared with loans to non-connected firms. There are two possible reasons why commercial banks cut more credit for connected firms during a monetary contraction. The banks are either concerned that the connected firms are more likely to go bust, or they are concerned that the government is less likely to bail them out once they go bust (Faccio, Masuilis and McConnell, 2006). We find evidence for both explanations. Regarding the first explanation, we find that firms with risky loans (measured by a higher level of interest rate), poor corporate governance (measured by CEOs holding dual positions and a lack of option incentives) and firms that are in competitive industries (measured by lower-than-median sales from top 10 firms to the total sales) display significantly lower CARs. Regarding the second explanation, we illustrate that firms that are located in city governments with weaker fiscal situations, measured by a lower fiscal income, a slower growth from the proceeds of land sale and smaller level of fiscal independency, are associated with a larger negative CAR. This suggests that the poor outlook regarding such firms being bailed out by the local government is exacerbated by the financial situation of the local government. Both explanations assume that commercial banks are independent, self-interested and make decisions based on meticulous calculation (Firth, Lin, Liu, Wong, 2009; Ayyagari, Demirguc-Kunt and

Maksimovis, 2010).

Moreover, our results suggest that the banks are treating the connected firms as normal firms when they make their loan decisions. When we put the proxies for corporate governance, namely previous performance and financial health dummy of their local governance, the coefficient for the connected firm dummy become insignificant. This suggests that although the banks are still biased towards the connected firms on average, as the connected firms still obtain a large share of loans, on margin, banks are quite independent and efficient.

An alternative, less "rational" explanation, is that banks are forced to reduce loans for SOEs, probably following the intervention of the government. Although there is some evidence that the government may turn to administrative orders to force banks to extend more credit to connected firms in the boom period (Deng, Morck, Wu, Yeung, 2015), they are less likely to do the opposite in the tightening period, if only because of the great power enjoyed by such business groups (Brodsgaard, 2012)[4]. To mitigate the concern regarding government intervention, we compared firms that mainly borrow from state-owned banks and firms that borrow from non-state-owned banks. Presumably, state-owned banks are more likely to be subject to administrative interventions, and thus are more likely to cut loans for politically connected firms. However, there is no difference in the additional CAR associated with politically connected firms, indicating that government intervention in relation to banks is not a primary factor.

As mentioned before, a series of papers have provided evidence of the independence of financial institutions in China. (Alan, Qian and Qian, 2005, Firth, Lin, Liu, Wong, 2009, Ayyagari, Demirgiic-Kunt and Maksimovic 2010). Our paper can be regarded as an extension of those papers. However, we argue that our method may provide a stronger conclusion compared with the previous literature for the following two reasons. Firstly, instead of examining the decision regarding issuing loans, we look at the loan cutting decision when banks are forced to cut loans. Compared with the decision to issue loans, the decision to cut loans has a more negative impact on firms value, and thus is more likely to be affected by political intervention. By demonstrating that banks prioritize cutting loans for connected firms, we provide stronger evidence that banks are quite independent. Secondly, taking advantage of events of reserve requirement increases helps us to draw a conclusion that could not be interpreted in other ways. Previous studies use either no identification strategy or they use an instrumental variable (Pande and Udry, 2005), and the majority of their results cannot differentiate the self- interest motive from other factors, such as higher degree of information asymmetry mitigation associated with firms with better track records. In this paper, we use the natural experiment style, and the exogenous shock, the increases of the reserve requirement, is quite unlikely to be related to the outcome variables, namely, the decisions of commercial banks to cut loans. This provides us with a good opportunity to observe the preference of commercial banks over connected firms and non-connected firms.

The rest of this paper is organized as follows: Section 2 sets out the institutional background that describes the Chinese land market and the political influence over the local land supply, providing evidence for the legitimacy of the use of instrumental variables. Section 3 describes the data and

the methods we used to merge them. Section 4 is empirical and provides the regression analysis. Section 5 provides our conclusions.

I. The Institutional Background

In this section we will discuss three major institutional aspects of China that are related to this study: the recent reform over the banking sector, the reserve requirement for commercial banks as a monetary policy and the variation in political connections across firms. With regard to the banking sector reform, we highlight a series of measures taken recently aiming at weaken the political intervention of local politicians over the loan decision procedure of banks. Regarding political connections, we argue that these political connections are clearly defined by the ultimate controller of firms, that they originate from the centrally planned economy, and that they are quite stable over the years. Regarding the reserve requirements, we emphasize their secretive nature and their effectiveness in controlling monetary supply, as evidenced by significant stock market reactions to the announcements.

A. Banking Sector Reforms in China

In the central planning era, the only role of Chinese banks was to act as conduits for channelling low-cost capital to SOEs. These banks were subject to enormous political intervention and they did not enjoy independence. Local mayors had great powers regarding decisions to issue loans. Banks make loans to SOEs when local politicians ordered them to do so, without evaluating the prospect of the loans being paid back. Some of these loans were called "policy loans" as their aim was a form of subsidy of SOEs who lacked the capacity to make profit, but which still assumed the task of employment and social welfare provision.

That dependence of commercial banks eliminated the incentive and capacity of these banks to monitor their loans. This turned out to be value-destroying and dangerous. By the end of 1998, the NPL of the whole Chinese banking sector was as high as 50% (Lardy, 1998). A series of reform measures was implemented with the aim of decreasing political intervention and upholding the independence of commercial banks. Three national policy banks were established that took over the role of policy loan providers, which had formerly been played by the commercial banks. The structures of commercial banks were adjusted so that branches of commercial banks did not need to report to local government, only to their leaders within the bank.

A series of other measures were also taken to ensure that these independent banks were working in such a way as to maximize economic profits. Since 2002, more than 20 banks have been permitted to be listed on exchanges at home or abroad. Strategic block shareholders have been introduced into these listed commercial banks to ensure better corporate governance. Moreover, the entry barrier of the Chinese banking sector has been lowered as more and more previous city level banks have been allowed to operate national-wide[5]. In order to better monitor the quality of the bank loans, a banking sector watchdog, the China Banking Regulatory Commission (CBRC), was created.

Policy-motivated loans that failed to meet the CBRCs economic value requirement would be placed under strict scrutiny. See Table II for a summary of measures to ensure the independence and efficiency of Chinese commercial banks.

These above mentioned measures greatly decreased the political intervention in the business of commercial banks. The most impressive change was the sharp decrease in NPL. The average NPL rate for Chinese commercial banks by the end of 2014 was a mere 1.1%, much lower than the world average 5% and the previous 50%. The independence of banks is also reflected in the high profitability of Chinese banks: the total sum of revenues of all 16 listed banks accounts for nearly half of the total revenues of all listed companies in China.

B. Reserve Requirements in China

In this section we will provide institutional evidence for two arguments. Firstly, that the reserve requirement is a key monetary instrument by which China sterilizes the inflation pressure from capital inflow, as by it the state can greatly tighten the money supply without causing an increase in the rate of return. Secondly, the reserve requirement is a binding constraint in that it limits the total amount of loans that can be issued by commercial banks.

The reserve requirement refers to the required percentage of the total amount of deposits that has to be deposited in the central bank. By increasing the reserve requirements, the monetary authority controls the total amount of loans that can be issued by commercial banks and brings down the monetary multiple, achieving the goal of decreasing the supply of money.

Reserve requirements are frequently used as sterilization measures to offset the inflation pressures caused by the trade surplus, probably due to an under-valued foreign exchange rate (Chang and Qin, 2003; Goldstein and Lardy, 2006). Compared with other methods to control the money supply, reserve requirements have two major advantages. Firstly, as the interest rate paid to the reserve is normally set by the monetary authorities at a lower-than-market level, it is not an exact substitute for foreign capital, as most domestic bonds are. As a result, an increase in the reserve requirement would have a smaller effect on increasing the expected return of domestic fund rates and therefore is less likely to cause further carry-trade motivated capital inflow. Moreover, the lower interest rate paid to reserves makes the sterilization by the monetary authority less costly. The interest paid to the required reserves is only 1.8% far less than the one-year benchmark loan rate of 6.39%[6]. Secondly, the reserve requirement is an extremely intense monetary instrument, in that it has the capacity to decrease the money supply on a much larger scale compared with instruments such as open market operations. This is especially the case in China because the countrys financial sector is dominated by large commercial banks and bank loans are the main method of providing intermediate funds to corporations. It is estimated that the total amount of money supply that was decreased by the open market operation at its peak in 2011 was 200 billion RMB. Compared with this, it is estimated that the total amount of money supplied decreased by a 0.5% increase in reserve requirements was 350400 billion RMBalmost double the scale of open market operations.

Because of its effectiveness, low cost and high intensity, the reserve requirement is frequently

used to fight the severe inflation that has been caused by years of trade surplus[7]. Between 2006 and 2011, the Chinese central bank increased the level of reserve requirement 37 times, in order to repress the inflation rate. The level of the reserve requirement was increased from a mild 8.5% to a stunning 21.5%[8]. For the periods from January 2008 to July 2009 and January 2011 to July 2011 there was at least one adjustment of the reserve requirement each month, for a consecutive seven months. See Table II for a summary of the series of adjustments of the reserve requirements made by the PBoC.

The implementation of the adjustments of reserve requirements turned out to be successful and effective in controlling the monetary supply. The total amount of the monetary base that was frozen by each 0.5% increase in the reserve requirement was 350 billion RMB, almost 0.43% of the total monetary supply by the end of 2011. That means the ten consecutive monthly increases of the reserve requirements between October 2007 and October 2008 offset almost 4% of the total monetary supply. The effectiveness of the reserve requirement is evidenced by the declining monetary multiplier. A higher reserve requirement, by restricting commercial banks from making loans, should slow the money-creating process, and thus decrease the monetary multiplier. This prediction is confirmed by the fact that the Chinese monetary multiplier decreased from its peak of 5.2 in May 2006, when a series of reserve requirement adjustments started, to a much lower level of 3.8 in December 2008, when it ended. An assessment by Ouyang, Rajan and Willett (2010) has suggested an offset coefficient of 0.7 for Chinese sterilization measures, indicating that about 70% of the increase in the monetary base was offset by the reserve requirements.

However, the effectiveness of the adjustment of the reserve requirement is at the cost of the restrictions imposed on banks' loan issuance. Given that a larger portion of deposits is now required to be held as reserves, commercial banks could in theory either increase their total pool of deposits or liquidate other assets, such as extra reserves, bonds, or even securitize current loans to accommodate a large amount of loans. However, under current regulations, neither method is allowed. Firstly, the total amount of the deposits is not likely to be increased because of the deposit ceiling regulation. The Chinese ceiling rate for deposits is set by the monetary authority and commercial banks are strictly prohibited from offering a higher interest rate to absorb deposits[9]. Secondly, all other forms of asset cannot be easily liquidated. Existing loans cannot be moved off the balance sheet as collateralizations are not allowed in China. The majority of bonds are held to maturity, excluding the possibility of replacing a bond with loans due to both the illiquidity of the secondary bond market and government intervention (Walter and Howie, 2012)[10]. The excess reserve, one type of asset that is converted to reserve at the lowest cost, declined from 6% in 2003 to less than 3% in 2007, an amount that is only sufficient to deal with inter-bank transactions[11]. In sum, multiple regulations affecting commercial banks result in a situation where those banks have no other choice but to liquidate profitable loans to hand in reserves with a negative real interest rate[12].

The binding effect of the reserve requirements is also reflected by various market reactions. The stock price of all 18 financial institutions decreased by an average level of 1.9% compared with all other non-financial firms, for each 0.5% upward adjustment of the reserve requirement. The

three banks with a relatively high ratio of loans relative to deposits, the Communication Bank, the Pudong Development Bank and the China CITIC bank, experienced an average decrease of -3.4%. These restrictions in the banking sector also spread to other sectors, as evidenced by an average -0.47% decrease in the A share index on the trading day on which all 33 upward adjustments of the reserve requirements took place. Moreover, the effect of the reserve requirements can also be detected in the inter-bank market. Higher reserve requirements extract funds from commercial banks, pushing up the cost of funds in the inter-bank interest rate. This phenomenon is particularly evident during the period before the reserve requirement payment is due. For instance, on June 20, 2013, one week before the reserve payment, the official Chinese inter-bank overnight market interest rate, the Shibor rate, peaked at a historically high level of 13.44%, suggesting a dry-out of the money market due to the general liquidation and the deprived situation of commercial banks.

C. Political Connection in China

By politically-connected firms we refer to SOEs in China. Despite their widely-criticized poor performance and low productivity (Song, Storesletten, Zilibotti, 2011), a large number of politically-connected SOEs still exist. The reason for the existence of political connections between firms and the government is because this connection provides benefits to both parties. For the government, connected SOEs provide a series of advantages: they contribute a great amount of revenue (Louis, Mao and Zhang, 2005; Li and Brodsgarrd, 2013), are large, pension-providing employers (Bai, Li, Tao and Wang, 2000), and they provide the government with key support in implementing large-scale industrial strategies and national-level projects (Nolan, 2002). In return, politically-connected SOEs are granted favorable treatment and economic autonomy. These favors include monopoly power, exclusive usage of nationally-owned resources, such as oil, gas and coal, the majority of the trade quota and the largest amount of cheap bank loans and government subsidies (Downs, 2008; Li and Brodsgaard, 2013).

Politically-connected SOEs can be further categorized into two groups, central SOEs and local SOEs, according to whether their ultimate controller is the central government or local governments (Cole, 2009; Sapienza, 2002). Central SOEs, or firms affiliated to the central government are mostly tightly connected. They are mainly the spin-offs of previous government departments and they were transferred into corporate during the government reforms occurred around 2000. They have higher administrative rankings as evidence of institutions of higher importance to the economy. Central government has largest political and economic interests in them and thus maintains directly control over them. Firms with affiliations to local governments have more loose connections. Local SOEs are transferred from local factories and they have relatively lower administrative rankings. Local SOEs mainly take orders from the local government: central government can only influence their decisions indirectly, via giving orders to the local government. This influence is greatly impaired by the conflict of interest between the central and local government that is promoted by the decentralized system (Jin, Qian, Weingast, 2005). Nevertheless, the political connections between local SOEs are still much stronger compared with those of private firms, which are outside the administrative

hierarchy and over whom the central government thus has little influence[13]. In sum, central SOEs are located at the most-connected extreme of the political spectrum in China, while private firms are located at the most-unconnected extreme.

These political connections are quite stable as there are only rare cases in which the ultimate controller of a firm is changed. Firstly, privatization and nationalization, as the main methods of changing political connection, have been quite rare recently in China. Large privatizations are rare both because the government are reluctant to do so in fear of corruption and "loss of state assets" (Lang, 2004) and because private firms are reluctant to acquire SOEs to avoid too much social burdens such as pension funds provisions (Calomiris, Fisman and Wang, 2010).In recent years, the great majority of the small number of acquisitions of SOEs by private firms has been where private firms purchased nearly bankrupt shell companies, with the intention of bypassing the heavy regulation of private firms becoming listed in Chinese stock markets. At the same time, nationalization does not occur frequently mainly because private firms are not willing to be merged with unproductive SOEs[14]. Moreover, all levels of government restrain themselves from expropriating profitable private firms, mainly due to economic considerations.

The stability of political connections is also made possible by the hardship associated with switching from a local SOE to a central SOE. This is mainly due to conflicts of interest between the local and central governments. As local SOEs pay tax and a large portion of revenue to local governments, local government has a strong incentive to block the initiatives of central SOEs seeking to acquire local SOEs. For example, Szamosszegi and Kyle (2011) document that Hebei steel company, a local SOE, is merging with many smaller steel firms to avoid being acquired by Baotou steel company, a central SOE.

II. Data and Sample

In this section, we discuss how our samples, the variables used in this study, are constructed. We focus on the political connection of listed firms. Then we illustrate that the politically-connected firms are in general associated with a higher level of government subsidies, in the form of better access to external finance, despite their poorer performance in comparison to non-connected ones.

A. Data Resources

In order to investigate the effect of the adjustment of the reserve requirement on the stock price variations for firms with different political connections, we collected data of firms characteristics, daily stock market traded prices and information about their ultimate controllers. All information is sourced from the CSMAR database, the most comprehensive and detailed database about companies listed in the Shanghai and Shenzhen stock exchanges.

The scope of our sample is all listed firms in China that have a consecutive trading record for the period from 2006 to 2011, excluding those in the financial industry. That gives us a total sample of 2,392 firms. The key variable for this study is the measure of political connectivity. In line

with Charumilind, Kali and Wiwattanakantang (2006), we categorize the firms into three groups according to the ultimate controller of the firm, which information is provided by the CSMAR database. The reason for using the ultimate controller, instead of its largest shareholder, is that the widely employed pyramid structure of East Asian companies means that the right of control does not necessarily coincide with the cash flow right, making the latter an imprecise estimate as a proxy of the influence of shareholders in the firms. We mark those firms with a central government-level institution ultimate controller as central SOEs. The total number of those firms is 344. Note that this number is larger than the total number of central SOE conglomerates, which is around 112. The reason for this is that central SOEs are not those SOE conglomerates themselves, but rather, the listed subsidiaries. Some central SOE business groups have more than one listed subsidiary. For instance, the China Aerospace Science & Industry Corp and China North Industries Group Corporation both control nine listed subsidiaries.

Within the sample of SOE listed subsidiaries, we selected 55 firms that operate in the strategic industry and that are affiliated to those special central SOEs. Compared with other central SOEs, these central SOEs have an even closer political connection because the industry they are operating in is one of these "strategic" industries, such as telecommunications, petroleum and defense. The CEOs of these SOEs are usually at the higher level and these firms receive a much larger subsidy from the government. We name these 55 firm strategic SOEs.

All of these firms affiliated to local government or their agency, SASAC locals, are categorized as local firms. There are 698 local SOEs. All the rest are private firms, totaling 1,350. That gives a figure of 43% as the percentage of SOE firms, central or local, as a percentage of the number of total listed companies in China. The portion of SOE firms to all listed firms reflects the favorable treatment received by those SOE firms. The total number of listed SOE firms comes from a pool of the 143,000 SOEs in China: only 3.9% of the 3.59 million private firms[15]. In other words, the unconditional probability of SOE firms being listed is (43%/3.9%-1=) 10 times higher than that for non-SOE firms.

In order to detect the inter-day stock market reactions to changes in the reserve requirement, we calculated the CAR for a window of [-4, 1] around the announcement. The reason we started from four days before the adjustment was to incorporate the possibility of the leakage of information, something that was not rare in China before 2012[16]. To calculate the CARs, we first implemented the Fama-French three-factor model and a period of [-150, -10] to calculate the abnormal return, and then we aggregated the abnormal return within the six-day observation window. Other characteristics of the firm include its employment, total assets, leverage ratio, cash and tangible asset ratio, Tobin's Q and return on assets (ROA).

B. Statistical Descriptions

As mentioned before, Chinese listed firms can be roughly categorized into three groups: central SOEs, local SOEs and private firms, with the central SOEs being the most connected, while the private ones are least connected. In this section we will compare firms from various groups and

we will illustrate that political connection in China is heavily linked to certain key variables of the firms, such as scale, performance and subsidies from the government.

The statistical descriptions of firms with various political connections are summarized in Table III. All variables are measured at the end-of-2006 level, before the monetary tightening policies were implemented. Five groups of firms are described, and for each group the mean and the median value are stated. Columns 1 to 2 display the mean and the median level for all samples. Columns 3 to 8 illustrate the statistical descriptions of private firms, local SOE firms, central SOE firms and strategic SOE firms, with the degree of political connection ascending.

Three characteristics are noticeable. Firstly, the politically connected firms in general are much larger compared with the non-connected firms. The first three rows are the measures of the size of firms with different levels of political connection. It is clear that the size of firms increases with political connections. For instance, the average size of the most politically-connected strategic firms is around ten times larger than the least connected private firms, either measured by total assets, sales or employment.

However, this difference in size does not come from the accumulation of profitability, as in general the politically-connected firms are associated with worse performance. Tobin's Q, an indicator of the firm's potential to create value, indicates that the more politically-connected the firms are, the less value they are able to create. This is in line with a large literature stating that political connection destroys value. (Faccio, Masuilis and McConnell, 2006; Chen, Sun, Tang and Wu, 2011) However, our second measure of performance, the ROA, suggests a more complicated story. Although private firms still have a performance advantage over the SOEs, the performance within the SOEs does not decline in line with the extent of political connection. In fact, the order is reversed, with the strategic SOEs being most profitable. This relates to a third factor to which we need to pay attention regarding SOEs, namely the subsidies they receive from the government. Central SOEs, especially strategic SOEs, are more likely to be subsidized by the central government. These subsidizes, including monopolistic authorization to operate in certain industries, a lower price for resources and access to banks loans, could dominate the disadvantage in real performance, and result in a higher rate of return (Li, 2009; Li and Brodsgaard, 2013)[17]. These subsidies are also reflected by other measures, including the special treatment ratio. Special treatment (ST) is an indicator attached to a firm by the exchange when it makes a loss for three consecutive years. This alerts potential investors before they invest in these poorly performing firms. The ratio of ST is lower for private firms, and, among SOE firms, strategic SOEs are associated with the lowest ST ratio. This also confirms that a large amount of the subsidy is received by these politically-connected firms.

One form of subsidy that is particularly relevant to this research is access to bank loans. It is clear that politically-connected firms benefit from both the size and the maturity of the loans they receive from banks. These politically-connected firms are associated with large total loans and long-term loans, both measured as a percentage of the total assets. Moreover, the interest rates charged on these loans are smaller, indicating a lower financial cost for SOEs. Although private firms have a higher portion of short-term loans, those loans are mostly "working capital loans",

and can hardly be used to finance long-term investment. Due to the limitation on external finance, the total fixed asset ratio of private firms is much lower compared with that of the SOEs. This evidence is line with the view in the literature that Asian firms in emerging markets usually use short-termed loans because of the pervasive information asymmetry between the investment and managers (Diamond and Rajan, 2001; Benmelech and Dvir, 2013).

The advantage of the SOEs in access to external finance is by no means limited to a higher level of bank loans. Due to the approval procedure for equity/bond issuance in the Chinese market, political connection gives firms a great advantage in relation to accessing other financial markets, such as the bond market and the Hong Kong stock market. Both markets play an important role in corporate finance as an alternative channel by which to raise large capital at a lower cost. Not surprisingly, these strategic SOEs have the highest bond issuance ratio, outstanding bond amount and Hong Kong cross listing ratio. For all these measures, the private firms have only the slightest opportunity to obtain access to these financial markets.

In sum, this statistical description suggests that politically-connected firms, despite their lower productivity, as evidenced by their lower Tobin's Q and ROA, receive a large quantity of subsidies. One important source of these subsidies is the cheap access to various financial resources, especially bank loans. One natural question is whether the subsidies enjoyed by politically-connected firms so far are affected by the tightening of monetary policies. To answer that question, we move to the empirical analysis.

III. Empirical Analysis

In this section we carry out an empirical analysis of the differential effects of the reserve requirement adjustments on stock reactions. In order to demonstrate the political independence of Chinese commercial banks, we will illustrate that politically-connected firms, measured either by their ultimate controller or other political connection measures, are associated with a lower abnormal return compared with less politically-connected ones. This result is robust to variation in the regression setting. Moreover, follow-up regression analysis suggests that this low CAR comes from the bank loan channel, rather than from other channels, such as collateral channel. This is evidence confirming our hypotheses that banks are impartial when making corporates loans decisions. This decrease in bank loans is either because of their higher default probability or due to the fact that the government is less willing to bail them out if they are in trouble. In the last part, we find that the political connection dummy turn insignificant after we control for the credit ratings of those companies and the fiscal revenue of local governments where they are located in.

A. Negative Correlation Between Political Connection and CAR

In this section we will illustrate our main result: that politically-connected firms are associated with lower CARs when the reserve requirement is increased. The most connected firms, central SOEs, are associated with the largest drop in CAR. Moreover, this finding is further confirmed by

the real effect, namely, those political connected firms experienced a harder deceleration in their loan growth compared with non-connected firms. We then provide evidence that this differential reaction between the connected/non-connected firms is more pronounced for events that are less anticipated by the market, confirming that it is the news of the adjustment of the reserve requirement, rather than another event that may have occurred simultaneously, that is driving the result. We finally demonstrate that this result is robust to various changes to the setting of our regression, including changes to the measures of political connection, changes of length of observation windows and estimation methods (excluding those observations that may drive the result).

A.1. Baseline Regression

As mentioned before, the reserve requirements should have a negative effect on the stock market via the lending channel. This is because as the reserve requirements limit the capacity of banks to channel capital to listed companies, some projects with a positive net present value will be missed or delayed, causing a decrease in their stock prices. This influence is captured by the following panel regression:

$$CAR_{it} = \alpha + \beta_1 \, 1_{[SOE]} + \beta_2 \, 1_{[CentralSOE]} + \gamma \, control\, variables_{it} + \epsilon_{it}$$

The dependent variable is the stack of all CARs corresponding to each of the 37 events of reserve requirement adjustments for all listed companies. The CARs are calculated by adding up all daily abnormal returns for a period of [-4, 1] for each event, and the daily abnormal return is calculated using the Fama-French three-factor model for a period between 140 and 10 days before the event. In order to detect the cross-sectional heterogeneity of the results of the reserve requirement adjustment for firms with various types of ownership, we use two dummy variables as our main dependent variable. The first dummy variable is the SOE dummy, meaning that it assigns the value of 1 to firms with the government as their ultimate controller (central or local government), and 0 otherwise. The second dummy variable is the central dummy, meaning that it assigns the value of 1 only to those firms controlled by the central government, and 0 otherwise. These two dummies categorize the whole sample into three groups: private firms, SOE firms affiliated to local government and SOE firms affiliated to the central government.

A set of variables are also included in the regression as the control variables. These variables include: the size of the firms, measured by their total assets; the profitability level of the firms, measured by their ROA; the degree of liquidity of their assets, measured as the cash to total asset ratio; the investment opportunities of those firms, measured by Tobin's Q; and the degree of the tangibility of the assets, measured as the percentage of tangible assets as a percentage of the total assets. Various dummies, such as industry, event and year dummies, are also included in order to control for the fixed effect.

The result of baseline regression is illustrated by Table IX. In Column 1, only the SOE dummy is included, in order to obtain the unconditional effect of political connection on the CAR. The

coefficient is -0.13% for the SOE dummy. This indicates that for each upward movement of the reserve requirement, there is an extra 13 basis points decrease for SOE firms compared with private firms. Although it is not significant, at the 10% level, this indicates that the impact of the reserve requirement is far from universal: the SOEs are hit more significantly compared with private firms when the reserve requirements are upwardly adjusted.

Column 2 reports the results of the penal regression, with the central SOE dummy also included. The economic scale and t-statistics of the SOE are quite similar compared with its previous level, indicating that the co-linearity between the SOE dummy and central SOE dummy is not a severe problem in the regression. The level of the central SOE dummy is also negative, with a statistical significance of 1%. This suggests a progressive order of the political connection over the stock market reactions. Those firms that are more politically-connected experience a more severe impact as a result of tightened bank lending due to the change in the reserve requirement. The scale of the coefficient is also of economic significance. For each adjustment of the reserve requirement, the central SOE firms are (0.5%+0.13%=) 0.63% down compared with private firms. This increased to a 6.3% decrease for central SOE firms in 2007, considering that the central banks made ten upward adjustments during that year, and 24.9% extra negative CARs throughout the period between 2007 and 2011.

In Columns 3 and 4, the control variables and the fixed effects are included in order to control for various resources that may drive the results. Compared with Column 1, the coefficient for SOE firms reported in Column 3 is of a similar economic scale, around 15 basis points for the SOE firms. The difference is that it becomes statistically significant, at the 5% level. Although far from being a rigorous empirical test, the coefficients for the control variables also suggest that the decreases in the CARs during the adjustments of the reserve requirements are exerted through the decreases in bank loans. If the banks are going to cut loans, those larger firms, which require much larger loans, are associated with a deeper cut (Cenni et al., 2015). That is exactly what the negative coefficient of the total assets variable indicates. On the other hand, those firms with a large portion of tangible assets, which could be pledged as collateral to secure loans, experience higher CARs. This is consistent with the balance-sheet channel (Bernanke and Gertler, 1995, Chaney, Sraer and Thesmar, 2012). On top of that, those firms with a higher level of profitability and investment opportunities, measured by ROA and Tobin's Q, are both associated with a negative CARs compared with the average firm, probably due to the negative impact of financial constraints on firms operations and profitability.

Column 4 reports the regression result, including the control variables and the fixed effect dummy variables, together with the central SOE dummy. Like Column 2, both the SOE dummy and central SOE dummy are negative and the coefficient for the central SOE is both economically and statistically significant. The scale of the coefficient for the central SOE is smaller compared with the one reported by Column 2, indicating that the SOEs affiliated with the central government are associated with a 3.8% decrease compared with the average firm.

One interpretation of this result is that banks are cutting more loans to connected firms because their loans are larger, so that it is convenient to cut them. However, we find this reason to be not

quite convincing. Firstly, we explicitly control for the size of the firms and any effect that is related to the size of the loans should be accounted for. Secondly, as they are presumably motivated by self-interest, the banks should evaluate the potential interest revenue from each loan, by considering their probability of default and recovery rate conditional on default, rather simply considering their size. Moreover, there is sufficient time for the banks to make sensible and informed decisions as the banks are allowed more than 20 days to adjust their portfolio before depositing the additional required reserve.

As the political dummy is correlated with the other firms characteristics, notably the size and industry, one concern about the baseline regression is that the political connection measure captures the impact of those characteristics. Indeed, the statistical description suggests that politically connected firms are on average of a large size. An extensive body of literature suggests that politically connected firms are more likely to be operating in an industry that requires high fixed investment to take advantage of their abundant financial resources (Bai, Li, Tao, Wang, 2000, Song, Storesletten, Zilibotti, 2011). In order to mitigate this concern, we partition the whole sample according to the firms political connection, size and industry. By comparing the coefficient of each subsample and the whole sample, we can assess to what extent our baseline result results from the cross-subsample effect, or from the within-subsample effect. The former would suggest that our estimate of political connection is merely a complementary indicator of size/industry effect, while the later would indicate otherwise. The result is reported in Table VI. Columns 3 to 4 report an estimate of the impact of political connection for those larger-/smaller-than medium subsample groups. It is noticeable that the coefficients are quite close to the baseline regression reported in Table V. Columns 5 to 10 are subsamples categorized by industry. For all industries, politically connected firms are associated with lower CARs, although the effect is mostly concentrated in the manufacturing (light and heavy industries) and services sectors.

In sum, Table IX suggests a strong correlation between political connection and negative CARs, even controlling for various resources that could result in a differential effect between SOEs and private firms. This correlation is monotone in that politically more connected central SOE firms are associated with even higher CARs.

A.2. Real Effects

In this section we investigate the real effects of the reserve-requirement adjustment. If our previous finding that politically-connected firms are not affected by the tightening of the monetary base is valid, as reflected in their more sharp decrease in CARs during the dates around the adjustment event, then one would expect that this lending channel will have real effects on the observable performance of those listed firms. We firstly investigate whether politically-connected firms experienced a decrease in external finance, and whether various other measures of real performance, such as investment, employment and profitability, will be also be brought down due to the decline of external finance. Secondly, we explore whether the decrease in the bank loans due to the control of the lending channel will be partially substituted by another method of finance, such

as bond issuance, trade credit finance and a lower dividend hand-out.

We firstly check if the increases in reserve requirements have any different effects in relation to the external finance of connected/non-connected listed firms. We expect that politically-connected firms are associated with a larger decrease in their growth of external finance compared with a hypothetical scenario in which there were no changes of the reserve requirement. As it is impossible to observe firms financial situations in the scenario where there were no monetary policy changes, we use the growth rate of the external finance of each company in the three years prior to the event to approximate the financial situation in that hypothetical scenario. In particular, we use the loan growth rate between 2005 and 2007 as the baseline growth rate and compare the growth rate between 2007 and 2009 to that baseline growth rate. The assumption we make is that the growth rate of external finance of those firms will be consistent if there is no monetary extraction. The effect of the change of growth rate of loans is captured by the following cross-sectional regression:

$$\Delta LoanGrowthRate_{it} = \alpha + \beta_1 \, 1_{[SOE]} + \beta_2 \, 1_{[CentralSOE]} + \gamma \, control\, variables_{it} + \epsilon_{it}$$

For each firm listed before 2007, we calculated the growth rate of long-term loans, growth rate, using the observations in 2005, 2007 and 2009. As with the penal regression we implemented in previous sections, we use two dummy variables as our main dependent variable. They are the SOE dummy, that assigns the value of 1 to those firms that have the government as their ultimate controller (central or local government), and 0 otherwise, and the central dummy, that assigns the value of 1 only to those firms controlled by the central government, and 0 otherwise. The control variables that are included in the regression consist of the total assets, the leverage ratio, the cash ratio, the tangible assets ratio and the ROA.

The result from the above regression is given in Column 1 of Table XV. The changes of loan growth during a period of four years demonstrate a similar pattern to the change of CARs within four trading days. Both the coefficients of the SOE dummy and central SOE dummy are negative, and the latter is statistically significant at the 10% level. This result suggests that the loans obtained by politically-connected firms are indeed limited by the monetary policies and more politically-connected firms are hit more significantly by this policy.

One concern about this result is that the changes in real variables, including bank loans, investment and employment, may reflect a general tendency for the banks to substitute their SOE loans with funding to non-SOEs, due to the efficiency of the later. It may have nothing to do with the increases of the reserve requirements. In order to mitigate this concern, we use the growth rate in 2005 as a benchmark and compare the growth rate of all firms in 2007 with the benchmark. Thus, we use the changes of the growth rate of all variables, rather than the growth rates themselves. The non-hypothesis we are testing is whether political connection has anything to do with the changes of the growth rate, rather than the growth rate itself. The implicit assumption is that connected firms and non-connected firms would experience a change in their growth rate between 2005 and 2007 due to the smoothing substitution from connected firm and non-connected firms, even if there

were no exogenous shocks such as increases of reserve requirements.

A.3. Unexpected Events

One general question about the event study is whether the observed market reaction indeed comes from the event, or whether it comes from other factors that occurred within the observation window. This is a valid concern for our study as the length of the observation window is quite long, (37*6=) 102 days. Any event that occurred in that period could have an effect on our result. Our method to eliminate that concern is to explore one unique characteristic of those events in order to verify that the market reaction indeed comes from the changes of the reserve requirement. This unique characteristic is the markets anticipation of the events. In particular, we would like to explore the heterogeneity in regard to the extent to which the events are anticipated by the market and those unanticipated events are likely to be associated with a higher level of market reaction.

We use two different methods to quantify how well the market anticipated the events before they actually occurred. The first method is the time sequence, between the inflation announcement and the adjustment of the reserve requirement. In the inflation announcement, the national statistical bureau announces the previous month's national CPI index, usually around the 12th day of each month. If the CPI index is high, then the market would expect an upward adjustment of the reserve requirement on the 20th of the same month, as this has occurred many times, while a lower CPI index would probably indicate that adjustment was less likely. Two exceptions could occur, which we categorize as "surprises". Firstly, the adjustment could occur before the announcement of the CPI index. For instance, on April 5, 2007, the PBoC announced that the reserve requirement would be increased by 0.5%. This news surprised the market because the announcement date was prior to the announcement of the CPI of that month, which was announced on the 12th. Secondly, the direction of the adjustment could be different from that expected by the market according to the prior CPI index. Normally, a higher pre-announced CPI index figure would increase the expectation that the reserve requirement will be increased to tackle the high inflation. In that case, a decrease of the reserve requirement would definitely surprise the market. For instance, on Oct 18, 2008, the PBoC announced a decrease of the reserve requirement, with the widely expected increases resulting from the high CPI index announced earlier that month.

We thus use the announcement of the CPI index as a measure of whether the market is surprised by the event. We categorize the event as a "surprise" if (1) there is no CPI announcement within the 15 days prior to the announcement of the adjustment of the event, or (2) there is a CPI announcement but the indication of the CPI index is opposite to the real adjustment of the reserve requirement. There are 12 events that are grouped as surprises and the rest are events which the market anticipated. The result from regression with those anticipated and unanticipated events are displayed in Columns 1 to 2 in Table VIII. It is clear that the coefficient for the SOE and central SOE dummy are all negative and larger in scale for the unanticipated events compared with the anticipated events. The coefficient for the central SOE when the event is unanticipated is almost three times larger compared with that for anticipated events. The difference for the coefficient in

the SOE dummy is almost tenfold. All these changes of coefficient support the hypothesis that it is the surprise element of the events that causes the different market reactions between SOE and non-SOE firms.

The second measure we use to categorize whether an event is anticipated or not is the stock market reaction in respect of those financial institutions. As commercial banks are directly hit by the reserve requirement, due to the limitation imposed on the loan-able assets and lower profit, their stock market prices should reflect the market's anticipation of the events. If there is a large price drop in respect of financial institutions following the announcement of the adjustment of the reserve requirement, then it is likely that the market did not expect the event and one would expect a higher difference in CARs between the SOEs and non-SOEs.

Figure 1 demonstrates that our two criteria, the CPI index announcement method and the financial institutional method, are consistent with each other. Each bar represents financial institutions CAR compared with non-financial sector companies during the four-day window (-4 to 1) around each event of reserve-requirement adjustment. By exploring the different reactions in respect of financial institutions as against non-institutions we exclude any macro-level events that occur within the time-frame and that have a universal effect on all firms. We use black or white to indicate if the events are anticipated by the market or not. The black bars are those events that are not anticipated, either because there was no CPI announcement within 15 days prior to the adjustment or because the direction of the adjustment is opposite to the direction indicated by the CPI innovation. The white bars are those events anticipated by the market. The dash line is the 10% significance critical value estimated using 30 days excess return of financial institutions prior to the events. This figure is in support of the CPI index announcement method and financial institutional methods capturing the similar unexpected element of the market. The long bars going downward, corresponding to a larger market drop of financial institutions, are black, suggesting that events that cannot be predicted using CPI are very likely to cause a decrease in the shares of banks.

In Columns 3 to 4 of Table VIII we illustrate the regression results from the anticipated and unanticipated events. Consistent with the CPI announcement method and the hypothesis that it is the unanticipated factor that drives the difference between the stock market price reactions between SOEs and non-SOEs, the coefficients of the unanticipated group are much larger compared with those of the unanticipated group. The coefficient of the central SOE dummy using this criterion is even higher than the coefficient deduced by the CPI announcement method.

There is still one concern about the unexpected events: whether the higher coefficient yield from the unexpected events derives from one or two events or whether it is a universal effect from all the events. For instance, one can still argue that another policy that coincided with one of those events is causing the difference in market reaction between the SOEs and non-SOEs. Even the different reaction from one or two particular events results from the adjustments of reserve requirements, so one would give it a totally different interpretation compared with the case where for all events the SOEs are systematically associated with lower CARs. To exclude the possibility that our result is driven by one or two peculiar events that affect a small portion of firms, we calculate the percentage

of negative CARs ratio for the 12 unexpected events. The negative CARs ratio for each individual firm is defined as the total number of events it experienced (out of a total of 12 events), with negative CARs divided by the total number of events experienced. We divide the whole sample of all firms into three categories: private firms, local SOEs and central SOEs. We plot the cumulative distribution of each category of firms in Figure 2. It is clear that the line representing central SOEs is on the right of that representing local SOEs, with the line for private firms further to the left. This illustrates that central SOEs stock prices are more likely to react to the adjustment of the reserve requirement in a pessimistic and negative way, and the effect is universal: the lines do not intersect with the other two lines. This indicates that distributions of central SOEs and local SOEs are shifted by a systematic factor.

A.4. Robustness Tests

The main concern about the basic regression is that our SOE/non-SOE categorization captures the effects of factors other than political connection, and thus the interpretation that political connection is associated with more negative CARs is not necessarily correct. In order to mitigate that concern, we obtain other variables for political connection and implement a series regression with those variables. First, we use the total number of management figures who also have government career experience as a proxy of political connection. Second, we use access to various financial markets as a measure of political connection. Both variables give us a similar result compared with the baseline regression.

Our first alternative measure comes from the facts that were reported in Table II. Some SOE firms affiliated to the central government enjoy a higher administrative ranking, suggesting their closer connection to the government. We use this information to test whether more closely connected firms are in general associated with more negative CARs. We added one dummy variable that is assigned the value of 1 for those firms with ministerial ranking, and 0 for other firms with vice-ministerial ranking. This dummy variable should capture the effects of the additional political connection of those firms with higher administrative rankings. The result is displayed in column 1. Consistent with our hypothesis, firms with higher administrative rankings are associated with lower CARs, as the negative coefficient of the political dummy variable suggests.

Following Fan, Wong and Zhang (2007), we use the total number of management members who have working experience in the government as the first measure of political connection. The fact that there are more members with government backgrounds indicates a closer connection between the firm and the government. Note that this relationship is only a correlation, as the causation could move in both directions. Namely, the number of employees with government experience could cause a political connection or it could be the result of political connections. The regression with the number of management figures with government experience as the measure of political connection is illustrated in Column 2 of Table V. First, notice that the scale and the t-statistics of the SOE dummy and the central SOE dummy are almost unchanged. The coefficient of new political connection measures is both negative and significant, suggesting that more politically-connected

firms are more likely to be associated with a negative CAR compared with a normal firm. As a similar and complementary measure, the ratio of the employees who have Communist Party membership could also be used as a measure of political connection, an approach Li, Meng, Wang and Zhou (2008) applied. We implement the regression with the party member ratio as a proxy for political connection. A similar result is obtained, though not reported.

Apart from using the backgrounds of the employees of companies, another measure of political connection is a firm's access to various financial markets, including the Hong Kong stock market and bond markets. Our first measure is the ratio of firms long-term debt to their total assets. Those long-term loans with a period of more than one year or more are also called project loans[18]. Such loans usually require that the government certify that a project is the purpose of the finance, before the bank will issue the loan. Obviously, politically-connected firms are in a better position to get the project approved by the government and thus to obtain such long-term loans.

The next measure is whether the firm has access to bond markets and to the Hong Kong stock market. As Aharoney, Lee and Wong (2000) mentioned, access to those markets needs approval from the central government, making politically-connected firms more likely to issue bond and stocks in Hong Kong. We use the dummy variables to mark whether the firms issue bonds in the Chinese market and stocks in the Hong Kong market. The total bonds outstanding by the end of 2006 is also used as a measure of how closely the firm is connected.

The results of regressions with the above-mentioned measures of political connection are demonstrated in Columns 3 to 6 in Table V. The result suggests that the relationship between negative CARs and political connection is robust to the measures of political connection. Notice that all the coefficients for various measures of political connection are negative, and all but one are statistically significant.

Moreover, the fact that using access to various markets could lead to upward bias further strengthens our argument that political connection is associated with negative CARs. That is because those financial markets, including the bond market and the Hong Kong stock market, can also play the role of an alternative method of external finance during the monetary tightening period, on top of being measures deriving from political connections. Those firms with access to a bond or the Hong Kong stock market could raise capital there and, as a result, the repressing effect on those firms from the tightening policy of the central bank should be reduced. By ignoring that effect we are facing an upward bias to the CARs, meaning that the unbiased CARs should be more negative. Therefore, the fact that the coefficients obtained from the regression are still negative and statistically significant is strong evidence that political connections have a negative impact on the CARs as the unbiased coefficient must be much more negative than we have observed so far.

In the rest of this section we implement various robust tests to ensure that the result we achieved is robust to various changes of settings of the regression.

Firstly, we check the effect of the time-span of the CAR calculation window and its impact on political connections. Instead of using a time-span of [-4, 1], we used a time-span of [-1, 1], with all other settings of the regression unchanged. Compared to our previous result, the coefficient

from the regression for both the SOE and central SOE dummies are smaller, although they both remain negative and the coefficient for the central SOE is still 1% significant. The smaller scale of coefficients suggests that some of the CARs occurred several days before the event was announced, probably due to a leakage of information or the speculation of the market regarding the behavior of the central bank[19].

There are two related concerns with regard to the interpretation of negative CARs. The first concern is that the CARs come from an establishing trend. If this is the case, then our result could be best understood as representing a momentum effect, resulting from certain events that occurred before with large market reactions. We address this concern by using a pre-event window to calculate CARs, namely a period of [-14, 4], to capture the effect of any event that occurred before that event. The second concern is that the effect is only a temporal effect, rather than a long-lasting one. It probably comes from the change in market sentiment and would be reversed shortly afterwards. If that is the case, we would expect a higher level of price reversal for politically-connected firms. We use the CAR in a time-span of [1, 11][20], ten days after the reserve-requirement adjustments, to capture and reverse the stock prices. The results for these two regressions are illustrated in Columns 2 and 3 of Table VI. Both the coefficients for the SOE and central SOE are insignificant. This result suggests that the negative CARs of the politically-connected firms are only limited to the period around, rather than before or after, the event. Therefore, our baseline result is less likely to be the consequence of any incident that occurred before the event or a temporal change of market sentiment.

Another possibility is that those firms included in our politically-connected groups happened to be firms that were sensitive to the adverse news, and more likely to experience more negative returns[21]. See Fisman (2001) for further explanation in this regard. To alleviate this concern, we implement two extra regressions, with the independent variable being the CARs of two other negative shocks. One shock is sufficiently large to cause a strong market reaction and the two shocks are of different natures. The first one was the change of monetary policy in another country. On February 27, 2007, the unexpected increase of interest rates by the Japanese Central Bank caused a sharp drop in global stock markets. The A share index, the main index in China, experienced a drop of 8.8%. The second shock was a policy change in China but one that was unrelated to monetary policy. On May 30, 2007, the Chinese government announced an increase in the rate of stamp duty from 1% to 3%. On the first trading day after this announcement, June 4, the A share index fell by 6.12%. If the firms in the politically-connected group are more sensitive to bad news, then one would expect that they would drop to a large extent, relative to unconnected firms, during those two events. However, this hypothesis is not supported by the data. The result of the regression with CAR calculated using data around those two events is given in Columns 4 and 5 of Table VI. No coefficient is statistically significant. This suggests that our result is not derived from the different sensitivities of firms to adverse news.

The adjustments of the reserve requirement can be either upwards or downwards. Out of 37 adjustments, the majority, 33, were upwards; only four were downwards. The effects of these

adjustments were by no mean the same. The upward adjustment, as it directly limits the total amount of loans that are allowed to go to firms, has a more immediate and abrupt effect, while the downward adjustment needs the whole economy to cooperate to work, so its effects are much slower (Bernanke and Gertler, 1995) This intuition is confirmed by the results demonstrated by Columns 6-7 of Table VI. The coefficients for the downward adjustments of the reserve requirement, despite being negative for both SOE dummy and central SOE dummy, are not statistically significant. On the contrary, the coefficient for the upward adjustment is of a similar significant level compared with the regression implemented in relation to the whole sample, with slightly higher t-statistics for the central SOE dummy.

Another concern is that our result may be driven by including several firms that are quite sensitive to the adjustments of reserve requirements. This includes those firms with poor recent operational performance and firms located in a regulated industry, such as real estate. We use the ST dummy for firms that have a bad recent operational track record. In the Chinese stock market, ST is a warning sign issued by the regulators in regard to those firms who have had negative profit for three consecutive years. ST firms might be very sensitive to changes of the reserve requirement as banks may firstly consider terminating the provision of loans to such firms when the total amount of loans is limited. Real estate companies are also sensitive to the adjustments of reserve requirements for two reasons. Firstly, real estate firms are heavily reliant on external finance, especially bank loans, making them vulnerable to any monetary tightening policies. Secondly, the increase of reserve requirements, one measure of government control of the general consumer price, increases the expectation that government will take measures to control house prices. All those measures would bring down the profit of real estate firms. Columns 1 and 2 of Table VII report the coefficient from the regression when all ST and real estate firms are excluded. The result is almost unchanged, suggesting that our result does not come from the ST firms.

Our result could be contaminated by other incidents that coincide with the events in question. The ones with the largest effects are the non-tradable reforms that started from 2005 and lasted until 2010. Before the reforms, large portions of the share of Chinese stocks were kept in the untradeable state: they were not allowed to be circulated in the market. What is more, there is a large market price difference between the tradable and untradeable shares. The essence of the reform that was carried out was to allow the untradeable shares to be circulated with certain compensation to those tradable shareholders. For the individual listed company, its share would be affected on the day when the negotiation about the compensation was initiated. We eliminated all 25 observations of firms whose announcement date coincided with any one of the reserve requirement adjustments. The result, illustrated in Column 3 of Table VII, is quite similar to our baseline regression, suggesting that these events are not playing a major role in driving the results.

Our result could also be contaminated by an over-simplification of our definition of political connection. For instance, some private firms maintain good political connections as they are privatized SOEs. The majority of those firms are unprofitable SOEs acquired by private firms, and whose acquisitions were designed to bypass the strict regulation regarding private firms floating

shares in China. Compared with other private firms, these private SOEs are associated with having good political connections. Although ignoring the political connections of these privatized firms and categorizing these firms as private firms is likely to create a downward bias, it is useful to check if our result is sensitive to that bias. We implement our baseline regression, eliminating all those private firms, and the result is reported in Column 4 of Table VII. This result is quite close to our baseline regression and this indicates that the impact of these privatized SOE is also quite small.

Another concern relates to our identification strategy. One characteristic of our dataset is that firms are subject to the same event data, which leads to a clustering of events in calendar time. Therefore error terms across firms from the market model are likely to be correlated, and this contemporaneous cross-correlation violates the independent error term assumption across firms (MacKinley, 1997). To mitigate this concern, we adopted the methodology developed by Schipper and Thompson (1983) to measure the stock market reaction of firms to the adjustments of the reserve requirement. The main difference between this method compared with the classic Fama-French three-factor model is that it includes another factor, the event date dummy variable, which assigns 1 to all event dates and 0 for all other dates in the first stage regression when the daily return is regressed to market returns and other variables[22].

The result from the Seeming Unrelated Regression (SUR) is reported in Column 5 of Table VII. Similarly to the result we obtained using the Fama-French methods, the coefficient of SOEs and central SOEs are both negative and only the coefficient for the central SOE is statistically significant. This confirms that our result is robust to the clustering of events in the calendar.

B. The Channel that Exerts the Impact

In the previous section we demonstrated that political connection has a negative impact on the CARs of listed firms during a monetary tightening period. In this section we argue that this impact is most likely to be exerted through the bank-lending channel. That is, commercial banks are not willing to lend as much to politically-connected firms as they would before, causing a decrease in their stock prices. We illustrated that those firms associated with a higher LTD ratio, higher borrowing from the inter-bank market, and those firms with higher financial reliance, are more likely to react more strongly to the events. Other factors, such as deterioration of the firms balance sheet, change in demand and the governments administrative orders, are not likely to explain the different effect between the SOE and the non-SOE firms.

B.1. Bank-Lending Channel

As the reserve-requirement adjustment affects individual firms through the impact on commercial banks, the state of the banks has an inevitable bearing on the stock market reaction to firms. Intuitively, if one firm is linked to a bank that is particularly vulnerable to the adjustment of the reserve requirements, then it is more likely to be hit by the adjustment compared to another firm linked to a more robust bank. In this section we use two measures to describe the vulnerabilities of

commercial banks to the adjustments of the reserve requirements: the LTD ratio and the banks borrowing position in the inter-bank market.

The LTD ratio is the portion of the banks loans over its total deposits. A bank with a higher LTD ratio is more likely to be subject to the adjustment of the reserve requirement. That is because with a higher portion of loans, it has fewer assets to liquidate when reserves are required. More importantly, these should create a different effect for firms with various degrees of political connection. Namely, if banks are cutting loans disproportionally for SOEs, causing a larger drop in prices for SOEs, then those banks with a higher LTD ratio are likely to cut more loans for SOEs, leading to a large drop in SOEs.

For various reasons, usually the smaller banks, due to their lack of capacity to attract deposits and their ambition regarding expansion, have higher LTD ratios, whereas the four national banks, due to their large base of deposits, are among the lowest LTD ratio banks.

To calculate the average of LTD ratios for banks that lend to one listed company, two sets of details are required: details of the lending relationship between banks and firms, and the LTD ratio for each bank. The bankfirm lending relationship is provided by the "List firms' borrowing dataset" from the SCMAR database. This database includes all disclosed bank loan information that is available for listed companies in China. It contains 37,300 major loan transactions for 2,258 companies for the period between 2006 and 2012. For each transaction, various kinds of information are provided, such as the lender's name, starting and expiration date, scale and interest rate of the loans, the collateral and the guarantor. We use that database to calculate the average LTD of lenders to each listed company. The information regarding the LTD ratio of the banks also comes from the commercial bank dataset of the CSMAR database. It includes the year-end observations for all 235 banks operating in China in the period between 2000 and 2013. It provides detailed information about the traditional balance-sheet/income-statement information and the bank-specific information, such as their borrowing/lending position in the inter-bank market. We obtained the LTD ratio by dividing the total amount of loans by the banks total deposits. There is a large cross-sectional variation in LTD ratio for commercial banks in China, with the lowest LTD ratio, 27%, for the Postal Saving Bank of China, and the highest, 63%, for Pudong Development Bank.

As listed firms usually borrow from more than one bank, we use two different methods to obtain the average LTD ratio. The first method is the equal-weighted average of LTD of all banks that have a lending relationship with the firm at each specific date. The assumption behind this method is that all banks have the same impact on the listed firms. Another method is the loan amount weighted average of the LTD. We take the average of the LTD ratio of each bank and multiply it by the size of the loans that each bank is lending to the firm. The advantage of the second method is that it considers the impact of the size of bank loans. It assumes that the reserve-requirement adjustment should hit the firm strongly if it borrows substantially from a high-LTD bank, compared with a firm borrowing only small loans from a high-LTD bank.

To detect the impact of the banks LTD on firms with various political connections, we interact the banks LTD with a dummy variable indicative of the firms ultimate controllers. The result

is displayed in Table IX. The scales of the coefficient of these politically-connected dummies are almost unchanged compared with the previous baseline regression result. The coefficients for the two interactive terms are both negative, suggesting that those banks most vulnerable to reserve-requirement adjustments cut disproportional loans for SOEs and central SOEs. The coefficient for interaction between the central SOE and LTD ratio is both statistically and economically significant. It suggests that for a bank with a 10% higher LTD ratio, its associated firms experience a -0.3% CAR when the reserve requirements is increased by 0.5%. As we expected, the scale of the coefficient for the loan-weighted LTD is higher relative to the equal-weighted LTD, indicating that the size of loan indeed matters.

Another measure of the extent to which banks are affected by the reserve requirement is the inter-bank borrowing ratio. Those banks that lack the deposits to make loans usually go to the inter-bank market to borrow from other banks. The advantage of inter-bank borrowing over normal deposits is that they do not require reserves. In other words, the funding from the inter-bank market requires no reserve requirements[23]. The inter-bank borrowing ratio is an indicator of the vulnerability of banks to the adjustment of reserve requirements because a higher inter-bank borrowing ratio indicates that banks have less capacity to finance their loans. Being required to hand in a large portion of reserves will definitely exacerbate their financial situation, forcing them to liquidate more loans.

We collected information about the inter-bank borrowing positions for all the banks in China. The information is from the commercial bank dataset of the CSMAR database. The average inter-bank borrowing position is 2.03% for Ningbo Bank, while the lowest is -4.02% (for Beijing Bank). Similar to the LTD ratio, two measures of the average inter-bank borrowing position are created, one equal-weighted and the other loan-weighted. The result from the regression analysis is reported in Columns 3 and 4 in Table IX. While the coefficients for our main political connection indicator dummy variables stay the same, the coefficients for the interaction between political connection and the inter-bank borrowing ratio is of a large scale compared with the LTD ratio. The coefficient for the interaction between the central SOE and the inter-bank borrowing ratio is significant, both statistically and economically. This suggests that for a 10% increase in banks borrowing from the inter-bank market, the CARs associated with the central SOEs are down about 0.75% for each increase of 0.5% of the reserve requirement.

One concern about the result reported above is that we cannot differentiate between two cases: either the banks are cutting loans because they cannot finance a lower amount for the loan due to the increased reserve requirements, or because their assets are expected to shrink substantially in the monetary contracting period due to the low quality of their loans. We use the average banks bad loan ratio to test if the latter is also true. Similarly, we collected the bad loan ratio of each commercial bank in China from the CSMAR database and two variables were created using equal or loan weight. The result is reported in Columns 5 and 6 in Table IX. Compared with our previous result, the coefficient of the interactive term between the central SOE dummy and the bad loan ratio is not significant at all, although it is still negative. This result mitigates the concern that our

result derives from the commercial banks concern about their bad loans. It also strengthens the argument that commercial banks are cutting loans that were squeezed out by the increased reserve requirements.

B.2. Financial Reliance of Firms

Another method to explore the impact of reduced bank lending on the CARs of listed companies is to look at the demand side of the bank-lending channels. Those firms with a greater demand for bank loans would probably suffer more from the decrease of loan-able assets from commercial banks. If banks are cutting loans disproportionally for politically-connected banks, then the difference between the connected/unconnected firms must be more significant for those firms in sectors that rely heavily on external finance relative to those with less demand for loans. The assumption we implicitly make is that bank loans are the major resources of external finance in China and firms cannot easily find substitutes when their bank loans are cut. Given the dominant status of commercial banks and the heavy regulation in regard to all other market finance methods (Song, Storesletten and Zilibotti, 2011; Ayyagari, Demirgiic-Kunt and Maksimovic, 2010), this assumption makes even more sense.

We use two different measures to detect the extent to which firms rely on external finance. The first measure uses the information from the external finance reliance of firms in the same industry in the US. The assumption here is that firms that operate in the same industry across countries, due to the fact that the nature of their business is the same, have the same degree of reliance of external finance. The reason to use the external finance reliance of US firms is because the US financial market is relatively frictionless and, by doing this, the limitation from the supply side will be lifted. We use the index constructed by Rajan and Zingales (1998), who calculate the portion of external finance as a percentage of a firms whole finance. For each listed firm in China, we identify the corresponding financial reliance of their US counterparts. The second measure, proposed by Braum (2003) is quite similar in that it also utilizes the industry-level information of firms from the frictionless US market. The only difference is that the ratio of tangible assets to total assets is used, rather than the reliance on external finance. The assumption is that firms with a higher level of tangible assets are more reliant on external finance as large, fixed asset investment is usually much larger than the scale of the retained profit, so resorting to external resources is inevitable.

We split the whole sample into two groups: above-median or below-median reliance, according to the two above-mentioned measures of external finance reliance. We then applied the setting of our baseline regression to each of the two groups. The result of the above two measures of financial reliance is demonstrated in Columns 1-4 of Table X. It is shown that those firms that are more reliant on external finance, whether measured by the portion of external finance or the tangible assets of their US counterparts, are associated with a more negative central SOE dummy compared with those with lower reliance on external finance. For instance, the scale of the coefficient for the group of companies with the high external finance reliance is almost two times larger relative to those with low external finance reliance, when measured using the method proposed by Rajan

and Zingales (1998). The other measure gives us a smaller scaled difference. In sum, this result confirms the hypothesis of the existence of a bank-lending channel, by illustrating that those firms with a higher level of external finance reliance are affected more severely by the increase of reserve requirements.

B.3. Other Channels

The negative impact of the increase of the reserve requirement could be exerted by other channels than bank lending. For instance, there could be a collateral channel: the tightened monetary policy could deteriorate the balance sheet of firms, causing a decrease in the total pledge-able assets, making it harder to raise capital externally. There could be a demand channel: firms stop obtaining loans because they do not need loans due to the reduced investment opportunities. Moreover, there could be an administration channel: banks stop lending to SOEs because they are told by the government not to do so.

We implement several regression tests to check the validity of all the above-mentioned channels. In order to examine whether there is a collateral channel, we use the variable of the tangible asset ratio for all firms. The tangible asset ratio is the ratio of the property, plants and equipment (PP&E) to the total book value of the company. We interact the changes in the tangible asset ratio during 20072009, a period characterized by abrupt reserve requirements, with our main dummy variables indicative of political connections. The idea is that if politically-connected firms experience a higher level of price drop because of the shrink in the value of their collateral, then those firms with a higher level of tangible assets shrink should be hit harder. One would expect there to be a negative sign for the coefficient of the interaction between the SOE dummies and the tangibility ratio.

We obtained the changes in the tangibility ratios of firms by dividing the scale of tangible assets by the total assets; both variables were obtained from the CSMAR database. The result of the regression is given in Column 1 of Table XI. In contrast with the collateral channel, the coefficient of the interactive term between the tangible ratios with both SOE dummies is positive. In addition, none of them are statistically significant. This evidence suggests that the collateral channel is not likely to be the main mechanism through which the reserve requirements affect firms value.

The second channel we explore is the demand channel. The value of firms could decrease either because investment opportunities are no longer profitable due to the monetary policies or the government stops firms from making any investment through administrative orders. In any case, we expect to see that those firms with the largest investment opportunities, and which are shrinking, are associated with the largest negative CARs. We use two measures of the investment opportunities of listed firms. Firstly, we use Tobins Q. Tobin's Q has been the classic control for investment opportunities within the financial constraint literature ever since Fazzari, Hubbard and Petersen (1987). A higher Tobin's Q, or a higher ratio of market value to replacement value, illustrates the capacity of firms to create value by investing their positive net purchase value (NPV) projects. However the measure is subject to some serious criticisms, mainly because Tobins Q measures the average rather than the marginal shadow price (Abel and Blanchard, 1986; Gilchrist

and Himmelberg, 1995). In recent years, Cummins, Hassett and Oliner (2006) found that reports from equity analysts could be a very important resource in regard to investment opportunities, compared with Tobin's Q. We use both Tobin's Q and equity analysts' opinions as measures of a firm's investment opportunities. Both figures are obtained from the CSMAR database. We use the forecasted ROA, which is obtained using the forecasted annual profit normalized by the total asset, as the opinion of the firm.

Similar to our treatment of the change of the tangibility ratio, we interact the changes of Tobin's Q or the forecasted ROA with the SOE dummy variables, our main indicator of political connections. The results of the regressions are reported in Columns 2 to 3 of Table XI. The results are not in line with the hypothesis of the demand channel. The coefficients of our indicators of changes of profitability (Tobins Q and forecasted ROA) with the SOE dummies are flipping and are not significant at all. This result suggests that the decrease in investment opportunities is not sufficient to explain the extra decrease in the value of connected, listed firms.

We finally check whether the extra decrease in relation to politically-connected firms comes from administrative orders. That is to say, whether it is possible that the government intervened and stopped the bank from lending to SOE firms. Although it is extremely hard, if not impossible, to observe, let alone quantify, the administrative orders the government gives to banks, we can explore this administrative channel by exploring the variations in ownership or the ultimate controller of banks. As the Chinese government controls the largest four commercial banks, the big four, the effect of administrative orders must be stronger on those firms with a borrowing relationship with those banks compared with other commercial banks that are not controlled by the government. That is, the difference in regard to the stock market reaction between connected/non-connected firms must be stronger among those firms linked to state-controlled banks. If we create a dummy to identify whether the ultimate controller of the banks is the state, and interact that dummy variable with our SOE dummy variable, then there should be a negative coefficient for the interaction terms because SOE firms are specifically restricted from borrowing from state-controlled banks.

We collected information about the ultimate controllers of banks from the CSMAR dataset, where we find the ultimate controller of all listed non-financial companies. We assigned 1 to big four banks and 0 to the rest of the banks. Then we created an index for each listed company regarding the portion of the loans that are issued by the big four. The idea is that the higher the portion of firms coming from big four, the more likely the firm is to be affected by the restrictions from government that forbid banks lending to SOEs, where those restrictions exist. Then the index is interacted with the SOE dummies. The result is given in Column 4 of Table XI. The coefficient of the interaction term between the SOE dummies and the big four loan index is quite small, but significant. This result suggests that the additional decrease in relation to SOE firms does not result from the governments intervention in regard to stopping banks from lending to SOEs.

C. The Reason that Firms are Declined Loans

In this section we will discuss the potential reasons why commercial banks cut loans at a disproportionally higher level for connected firms compared with non-connected firms. We hypothesize two reasons: one economic and one political. The economical reason is that as politically-connected firms underperform compared to private firms, their default may increase disproportionally during a monetary tightening period, leading to large negative CARs when adjustments of reserve requirements are announced. The political reason is that the government, facing more constraints during the monetary contracting period, is less likely to bail out politically-connected firms, also leading to a sharper drop in relation to those connected firms. We test both hypotheses in this section and we find empirical evidence for both arguments. Furthermore, we provide evidence that commercial banks are impartial in term that they treat the political connected firms the same way as they treat the non-connected firms. After controlling for the default probability and the fiscal revenue of local government, the coefficient for the political connection dummy turn insignificant.

C.1. The Impact of Corporate Governance and Industries Competitiveness

Our first hypothesis is the default possibilities of listed firms. Corporate governance is the mechanism for ensuring managers make consistent efforts to maximize the profit of their shareholders. Lacking such a mechanism is likely to expose a company to an alternative monitoring mechanism: the debt contract. That is, those firms with poor corporate governance are more likely to default over the period of their loans. Lee (2001), using the restructuring process of a state-owned pharmaceutical corporation, illustrated that although large SOEs never face the risk of being liquidated, their debt holder loss substantially when a government-coordinated M&A is processed.

We will use three different measures to quantify corporate governance. Our first measure is whether the corporate body violates any regulation and has been punished before. The China Securities Regulatory Commission, the watchdog of the Chinese financial market and the two main stock exchanges, Shanghai and Shenzhen, has various regulations regarding the behavior of listed companies. Minor misdemeanors, such as delay in publishing an annual report, are criticized publicly. Those involved with serious violations of the regulations, such as cheating or market price manipulations, face monetary or penal punishment. Those firms with a track record of being punished for serious violations are associated with poor corporate governance as such a record is an indicator of the absence of basic mechanisms to stop management from engaging in illegal activities. We assign 1 to 9 those firms with a track record of serious violations and 0 for those firms without such a record.

The second measure we use with regard to corporate governance is whether the CEO also holds the position of the chair of the board, following Brickley, Coles and Jarrell (1997). When the CEO is also the chair of the board, the monitoring function of the board over the management team will be greatly weakened and so will the corporate governance. We assign 1 to those firms whose CEO has the position of chair of the board and 0 to those firms where the CEO does not. The third variable we apply is whether there is an existing option scheme as an incentive mechanism to align

the interests of the managers and shareholders. Those firms who grant options to their management teams are regarded as having better corporate governance. We assign 1 to those firms without any option scheme and 0 to those firms that have one.

To explore the impact of corporate governance on the stock market reaction in respect of firms of various political connections, we interact our corporate governance dummy variable with the SOE dummy variables. If the poor corporate governance of politically-connected firms is the reason for their additional negative CARs via the bank-lending channel, one would expect that the coefficient of the interaction will be negative. The results, illustrated in Columns 1 to 3 of Table XII, support this hypothesis. All the interactive terms between the corporate governance dummy and the political connection dummies are negative and the ones associated with SOE affiliated to central government are significant, both statistically and economically. This suggests that central SOEs with blemished records, with the CEO chairing the board, and without incentive schemes, are associated with a 0.3%, 0.4% and 0.6% extra decrease in CARs when a 0.5% increase in the reserve requirement is announced. All these figures are of a similar scale to the baseline stock market reaction of those central SOE firms, which is around 0.3%.

Another factor that may affect the probability of default of politically-connected firms is whether they are allowed to operate in monopolized or less competitive sectors. Such permission is a channel to subsidization and will greatly decrease the possibility of those firms defaulting. In short, those firms that manage to work in a less competitive market should be associated with a lower possibility of default. This benefit should be disproportionally in favor of SOEs if the extra risk of SOE default is the reason that depresses the CARs upon the announcement of the reserve requirement adjustments.

We use the ratio of the total sales of the top 10 companies to the total sales of the sector as a measure of competitiveness. A higher ratio suggests a less competitive company and firms are expected to be associated with higher revenue and lower default probabilities. The result is given in Column 4 of Table XII. The coefficient of the interactive terms between the SOE dummies and the measures of sector competitiveness is positive and significant. This suggests that those firms that operate in a sector that protects SOEs from competitors benefit the company, as evidenced by a higher level of CAR.

In sum, the above two investigations suggest that firms that have less possibility of being in default in regard to their loans, either because of having a better corporate governance mechanism, or access to permission to operate in a less competitive sector, are associated with less negative market reactions. Combined with the bank-lending channel we established earlier, this suggests that banks cut loans due to concerns regarding the capacity of those firms to pay back their loans, although that concern could be partially mitigated by the firms good corporate governance and higher revenue.

C.2. Loan Characteristics

The second method to investigate if banks are cutting loans for SOE firms is to look at the loan characteristics. If the bank-lending channel is functioning and banks are cutting loans because they are concerned that SOE firms are associated with a higher default rate, then one would expect to observe that those SOEs with risky loans are hit by the monetary contraction the most.

We use three difference measures to quantify the risk attached to the loans. Firstly, we use the loan period. Loans with a longer period are considered to be riskier compared with short-term loans, as the banks have no threat point of stopping the finance before it matures[24]. Secondly, we use the interest rate of the loans as the measure of risk. As banks usually charge less secure borrowers a premium over the normal interest, a higher interest rate indicates that the loan is not safe. Thirdly, the provision of collateral is also used as an indicator of the riskiness of the loan. This is because loans secured by providing collateral are associated with much lower risk.

For each measure we calculate the average level for each listed company. We use both the equal-weighted and loan-weighted measures to calculate the average level. The result is reported in Table XIII. All the coefficients of the interactive term between the SOE and the first two riskiness measures, the loan period and the interest rate, are negative. This suggests that banks consider that firms with political connections are more risky, compared with their private counterparties. This is in line with our hypothesis that firms with political connections are associated with a higher risk of default. The coefficients of interactions between the political connection dummy and the portion of secured loans is reported in Columns 5 and 6 of Table XIII. Again, having secured loans benefits SOE firms to a larger amount relative to how such loans benefit private firms. This supports the hypothesis that SOEs are perceived to be riskier in the first place.

C.3. Cities Fiscal Situations

The second reason why banks cut more loans to politically-connected firms, we hypothesize, is because the government, in the monetary tightening period, is less likely to rescue connected firms in the face of default than they would have been before.

One way to test this hypothesis is to explore the cross-sectional heterogeneity in the geographic locations of those listed firms. By doing this we are looking at the fiscal situation of the local government. We argue that the fiscal situation is the most important factor that determines whether the local government is going to bail out listed firms. Governments with lower fiscal income compared with their fiscal expenditure are less capable of rescuing failed listed companies when compared with governments with a larger amount of fiscal income. Here we make three assumptions. Firstly, we assume that the fiscal situation is positively correlated with the capacity of the local government to mobilize funds to bail out listed companies. This assumption is reasonable because city governments with higher fiscal income could either fund the bailout proceeds using their fiscal income or raise funds from a bank secured by their future fiscal income. Secondly, we assume that local government is always willing to save the listed companies located in their jurisdiction. This is a reasonable assumption given the importance of listed companies in creating employment, paying

tax and promoting local GDP. The second assumption is that the local government is subject to fiscal constraints. Namely, it cannot easily expand its fiscal income or decide the transfer it receives from the central government. This is also reasonable considering that the local tax revenue has been quite constant in recent years (Zhang and Barnett, 2014) and two large off-balance forms of fiscal income of local governments, the proceeds of sales of land and transfers from central government, are actually determined by their higher-level government (Hu and Lin, 2003).

In this section we use two different measures to investigate the capacity of city governments to bail out defaulting SOEs. The first measure focuses on the total fiscal income of the city government. The Chinese government's income derives from the in-budget income and out-budget income, which mainly consists of the proceeds from the sale of land. Cities with a higher-than-median in-budget income or proceeds from land sales are more likely to subsidize listed firms when they are in a difficult financial situation. We obtained the citys fiscal income and expenditure figures from the Macroeconomic dataset from the SCMAR database. We also obtained the data of each citys land sale proceeds from the China land statistical yearbook. The second measures of the capacity of the local government to subsidize firms are the administrations rankings of those cities. There are two types of cities that are special in this sense: the Special Economic Zone and listed independent cities. Both types of cities are special because they are exempt from making payments to the provincial government, and they only have to share their fiscal income with the central government. This means that those cities have much richer fiscal resources with which to subsidize firms[25]. The information regarding Special Economic Zones and listed independent cities is drawn from the official website of the Chinese government[26].

In order to detect the relationship between the governments fiscal situation and the connected firms extra negative CARs, we split the data according to each variable. In particular, we divide the whole sample of firms according to whether they are located in a city whose government has a higher-than-median fiscal expenditure or lower-than-median local land sales. We then divide the companies according to whether or not they are located in a city with a Special Economic Zone or Listed Independent city status.

The empirical result illustrates that those firms that are located in a city with a better fiscal situation are associated with higher CARs in the event of adjustments of the reserve requirements. The result is displayed in columns 1 to 8 in Table XIV. The table consists of four pairs of columns and, for each pair, the left column corresponds to the group of firms located in cities with a worse fiscal situation compared with the firms in the right column. It is clear that all the coefficients in the left column are of a large scale and are more statistically significant compared with the right column. This suggests that a citys fiscal situation indeed affects the scale of negative CAR that firms experience during reserve adjustments, and a citys positive fiscal situation increases the prices of the firms located in it. This result is in line with our hypothesis that banks do not lend to SOEs for fear that the government is not going to bail them out when they go bust.

This limitation on external finance can be easily transmitted to investment, profitability and employment. Due to a relatively higher level of credit constraints, some projects with positive NPV

will be cut, leading to a smaller growth in investments. The profitability growth rate is also expected to be decreased due to the cut in positive NPV projects. At the same time, the growth rate of the employment for those listed firms is also shrinking, mainly due to the lower investment. The above hypotheses are mainly confirmed by the empirical result illustrated by Columns 2 to 4 of Table XV. The setting of those regressions is the same as the one illustrated in Equation 2, except that the dependent variable is replaced by the changes of the investment, profitability and employment. For all those three variables, the coefficients for both the SOE dummy and the central SOE dummy are negative, and the central SOE dummy is statistically significant at least at a confidential level of 10%. This result emphasizes the politically-connected firms' heavily reliance on external finance, as their performance is greatly affected when banks loans are not as abundant as before.

C.4. Default Probabilities

Previous evidence suggests that the additional increase in the default probability of connected firms and the decrease in the probability that they will be bailed out by local governments suggests that the banks are cutting loans based on meticulous calculations. However, in order to show that the banks are independent in their decisions regarding issuing loans one has to demonstrate that the banks are not treating the politically connected firms differently from other non-connected firms. That is, the extra negative CARs of the politically connected firms result from their higher default probability, not their state ownership *per se*. We would then expect that in the regression the political connection dummy will not be statistically significant, as all the information we obtained from the political dummy would have been explained by the default probabilities.

In order to control for the impact of the default probability of companies on the loan decision of banks, we obtain the variable from the default probability data from the CSMAR database for each listed company for each year during the period between 2006 and 2011. We then calculate the difference in the credit rating between the beginning and the end of each monetary tightening period[27]. This variable would capture the increase of the default probability of each company due to the decrease of money supply by the authority. Regarding the probability of the firm being bailed out by the government, we use the change of total fiscal income of the local government as a proxy of the firm being bailed out by the government. The total fiscal income is the sum of the total fiscal income plus the total proceeds from land title sales.

The result is shown in shown in Table XVI. Column 1 repeats the same baseline result that was illustrated in Table IV, the main result of this study. Columns 2 to 4 illustrate the scale of the estimate of the political connection dummy variable when we control for the changes of default probability and the probability of the government bailing firms out. The result is consistent with the hypothesis that commercial banks are independent when they make the decision to cut loans for listed companies. It is evidenced that when the default probability alone is included, the scale of the coefficients of the political connection dummies is close to zero and insignificant, suggesting that banks are impartial. The sign for the default probability is negative, indicating that a higher probability would decrease the CAR as the banks are cutting loans for connected companies. The

coefficients for connection dummies are closer to zero when the government bailout probability is included.

IV. Conclusion

In this study I have demonstrated the cyclical nature of political connections. I utilized a unique but effective monetary policy, the adjustments of reserve requirements, and investigated the market reaction to the news of the adjustments. Our main finding is that more politically-connected firms, or firms with the local or central government as their ultimate controller, experience a larger negative CAR within a small window around the upwards adjustment of reserve requirements. I argue that this different effect, between connected/non-connected firms, is mainly exerted via the bank channel. The decrease in the value derives from the extra cutting of loans by banks to those connected firms. This is because banks are concerned about either an increased probability of connected firms defaulting, or a lower probability of a government bailout. I also demonstrate that other factors, such as changes in the value of collateral, a decrease in investment opportunities and government intervention in banks, are not likely to cause this different effect.

Notes

[1]Even though the Chinese government is famous for keeping its forthcoming policies secret. (Calomiris, Fisman and Wang, 2011).

[2]A large borrowing position in the inter-bank market suggests that loans are surpassing the maximum capacity of banks in regard to their deposits, so that they have to face the extra risk of financing them using short-term borrowing in the inter-bank market.

[3]Collateral channels have proved to be important in the US market (Chaney, Sraer, and Thesmar, 2012) and in Japan's banking sectors (Gan, 2007).

[4]Powerful business groups suggest an asymmetrical effect in regard to extending and cutting credit: it is much easier to extend credit for such groups, compared with cutting credit, because doing the former is in line with the interests of their management and shareholders.

[5]Shanghai Bank was the first bank to obtain a licence to operate nationally, in 2004.

[6]Measures in March 2007.

[7]The Chinese CPI index peaked at 8.7% in January 2008, and 6.5% in July 2011.

[8]It is 21% for smaller banks.

[9]The Chinese Commercial Bank Law stipulates that commercial banks are not allowed to take deposits that grant an interest rate higher than the level set by the PBoC.

[10]Some may argue that the banks' loan per RMB of deposit is determined by the 75% LTD ratio ceiling rate; that is equivalent to a formidably high reserve requirement of 25%. However, this argument does not consider that the banks are also required to hold bonds, as in the Treasury bill, the Central Bank bill and bonds issued by other government agencies. As a result, the real LTD ratio is lower than the 75% level.

[11]This is evidenced by the fact that the excess reserve rate is almost constant after the dramatic increases of reserve requirements between 2007 and 2011.

[12]Fama (1985) argues that the lower interest paid on reserves compared with the deposits put the banking sector in a disadvantaged situation compared to the bond market and is equivalent to a tax on the banking sector.

[13]Admittedly, the heterogeneity among private firms in their connections to the government could be very significant. See Li, Meng and Zhang (2006). However, those connections are much more

unstable compared with the connections between SOEs and the government, which are maintained through company ownership.

[14]One exception is Rizhao steels merger with Shandong steel, when the steel industry was in distress in 2008.

[15]The figure is from "the second national economic survey", National Bureau of Statistics, 2009.

[16]In one scandal in 2012, the CPI index was disclosed by foreign media one day before it was officially announced by the National Bureau of Statistics in China. A resultant investigation led to six practitioners being put in prison for disclosing state secrets.

[17]Li and Brodsgaard (2013) illustrate that once the subsidies enjoyed by politically-connected Chinese firms are removed, their total profitability is much less impressive and falls to below zero.

[18]The short-term loans are also called "working capital loans".

[19]One fact in support of the hypothesis of market speculation is that most of the upward adjustments of the reserve requirement occurred around the 20th of each month. This regularity makes it easier for the market to anticipate. See Figure X for the details of the date of each adjustment.

[20]Notice that we are limited in regard to expanding the observation length of the prior-and post-event CARs as these could overlap with the next event. As the Chinese central bank usually increases the reserve requirement each month, the distance in dates between two events is usually 30 days.

[21]The possible factors that could affect stocks being sensitive to negative news include the stock liquidity, the market sentiment and other industry-level situations, such as competitiveness.

[22]The more detailed calculation please see Schipper and Thompson (1983).

[23]Although there is no reserve requirement for those funds, a maximum LTD ratio for inter-bank market borrowing was imposed on January 16, 2015.

[24]Again, see Diamond and Rajan, 2001.

[25]Admittedly, the Special Economic Zone cities may have other favorable policies that also could have caused the different effect, between SOE and non-SOE firms.

[26]The Special Economic Zone information comes from the official website of the Ministry of Commerce of China (www.mofcom.gov.cn/xglj/kaifaqu.shtml). The names of the listed independent cities information come from BaiduBaike, the Chinese version of Wikipedia.

[27]There were two monetary tightening periods during this period: one from 2006 to 2008 and the other from 2009 to 2011.

REFERENCES

Agrawal A, Knoeber C R. Do some outside directors play a political role?[J]. Available at SSRN 224133, 2000.

Aharony J, Lee C W J, Wong T J. Financial packaging of IPO firms in China[J]. Journal of Accounting Research, 2000: 103-126.

Bai C E, Li D D, Tao Z, et al. A multitask theory of state enterprise reform[J]. Journal of Comparative Economics, 2000, 28(4): 716-738.

Benmelech E, Dvir E. Does Short-Term Debt Increase Vulnerability to Crisis? Evidence from the East Asian Financial Crisis[J]. Journal of International Economics, 2013, 89(2): 485-494.

Berkman H, Cole R A, Fu L J. Political connections and minority-shareholder protection: Evidence from securities-market regulation in China[J]. 2011.

Bernanke B S, Gertler M. Inside the black box: the credit channel of monetary policy transmission[R]. National bureau of economic research, 1995.

Bernanke B S, Kuttner K N. What explains the stock market's reaction to Federal Reserve policy?[J]. The Journal of Finance, 2005, 60(3): 1221-1257.

Bernanke B, Gertler M, Gilchrist S. The financial accelerator and the flight to quality[R]. National Bureau of Economic Research, 1994.

Bertrand M, Kramarz F, Schoar A, et al. Politically connected CEOs and corporate outcomes: Evidence from France[J]. Unpublished manuscript, 2004.

Boubakri N, Cosset J C, Saffar W. Political connections of newly privatized firms[J]. Journal of Corporate Finance, 2008, 14(5): 654-673.

Boyreau-Debray G, Wei S J. Pitfalls of a state-dominated financial system: The case of China[R]. National Bureau of Economic Research, 2005.

Brandt L, Zhu X. Chinas banking sector and economic growth[J]. Chinas financial transition at a crossroads, 2007: 86-136.

Brickley J A, Coles J L, Jarrell G. Leadership structure: Separating the CEO and chairman of the board[J]. Journal of corporate Finance, 1997, 3(3): 189-220.

Brdsgaard K E, Li X. SOE Reform in China: Past, Present and Future[J]. The Copenhagen Journal of Asian Studies, 2014, 31(2): 54-78.

Brdsgaard K E. Politics and business group formation in China: the party in control?[J]. The China Quarterly, 2012, 211: 624-648.

Brown C O, Dinc I S. The politics of bank failures: Evidence from emerging markets[J]. The Quarterly Journal of Economics, 2005: 1413-1444.

Calomiris C W, Fisman R, Wang Y. Profiting from government stakes in a command economy: Evidence from Chinese asset sales[J]. Journal of Financial Economics, 2010, 96(3): 399-412.

Campello M, Ribas R P, Wang A Y. Is the stock market just a side show? Evidence from a structural reform[J]. Review of Corporate Finance Studies, 2014, 3(1-2): 1-38.

Cenni S, Monferr S, Salotti V, et al. Credit Rationing and Relationship Lending. Does firm size matter?[J]. Journal of Banking & Finance, 2014.

Charumilind C, Kali R, Wiwattanakantang Y. Connected Lending: Thailand before the Financial Crisis*[J]. The Journal of Business, 2006, 79(1): 181-218.

Chen C, Li Z, Su X. Rent seeking incentives, political connections and organizational structure: Empirical evidence from listed family firms in China[J]. City University of Hong Kong Working Paper, 2005.

Chen S, Sun Z, Tang S, et al. Government intervention and investment efficiency: Evidence from China[J]. Journal of Corporate Finance, 2011, 17(2): 259-271.

Chen Y, Liu M, Su J. Greasing the wheels of bank lending: Evidence from private firms in China[J]. Journal of Banking & Finance, 2013, 37(7): 2533-2545.

Claessens S, Feijen E, Laeven L. Political connections and preferential access to finance: The role of campaign contributions[J]. Journal of Financial Economics, 2008, 88(3): 554-580.

Cole S. Fixing market failures or fixing elections? Agricultural credit in India[J]. American Economic Journal: Applied Economics, 2009: 219-250.

Cull R, Xu L C, Zhu T. Formal finance and trade credit during China's transition[J]. Journal of Financial Intermediation, 2009, 18(2): 173-192.

Cummins J G, Hassett K A, Oliner S D. Investment behavior, observable expectations, and internal funds[J]. The American Economic Review, 2006, 96(3): 796-810.

Deng Y, Morck R, Wu J, et al. Chinas Pseudo-monetary Policy[J]. Review of Finance, 2014: rfu026.

Diamond D W, Rajan R G. Banks, short-term debt and financial crises: theory, policy implications and applications[C]//Carnegie-Rochester Conference Series on Public Policy. North-Holland, 2001, 54(1): 37-71.

Din I S. Politicians and banks: Political influences on government-owned banks in emerging markets[J]. Journal of Financial Economics, 2005, 77(2): 453-479.

Faccio M, Masulis R W, McConnell J. Political connections and corporate bailouts[J]. The Journal of Finance, 2006, 61(6): 2597-2635.

Faccio M, Parsley D C. Sudden deaths: Taking stock of geographic ties[J]. Journal of Financial and Quantitative Analysis, 2009, 44(03): 683-718.

Faccio M. Politically-connected firms: Can they squeeze the State?[J]. 2003.

Fan J P H, Wong T J, Zhang T. Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms[J]. Journal of financial economics, 2007, 84(2): 330-357.

Firth M, Lin C, Liu P, et al. Inside the black box: Bank credit allocation in Chinas private sector[J]. Journal of Banking & Finance, 2009, 33(6): 1144-1155.

Fisman R. Estimating the value of political connections[J]. American Economic Review, 2001: 1095-1102.

Francis B B, Hasan I, Sun X. Political connections and the process of going public: Evidence from China[J]. Journal of International Money and Finance, 2009, 28(4): 696-719.

Guariglia A, Mateut S. External finance and trade credit extension in China: does political affiliation make a difference?[J]. The European Journal of Finance, 2013 (ahead-of-print): 1-26.

Hoshi T, Kashyap A, Scharfstein D. Corporate structure, liquidity, and investment: Evidence from Japanese industrial groups[J]. The Quarterly Journal of Economics, 1991: 33-60.

Hovakimian G. Financial constraints and investment efficiency: Internal capital allocation across the business cycle[J]. Journal of Financial Intermediation, 2011, 20(2): 264-283.

Hsieh C T, Klenow P J. Misallocation and manufacturing TFP in China and India[R]. National Bureau of Economic Research, 2007.

Hung M, Wong T J, Zhang T. Political considerations in the decision of Chinese SOEs to list in Hong Kong[J]. Journal of Accounting and Economics, 2012, 53(1): 435-449.

Jin H, Qian Y, Weingast B R. Regional decentralization and fiscal incentives: Federalism, Chinese style[J]. Journal of public economics, 2005, 89(9): 1719-1742.

Johnson S, Mitton T. Cronyism and capital controls: evidence from Malaysia[J]. Journal of financial economics, 2003, 67(2): 351-382.

Krueger A O. The political economy of the rent-seeking society[J]. The American economic review, 1974: 291-303.

Kuttner K N. Monetary policy surprises and interest rates: Evidence from the Fed funds futures market[J]. Journal of monetary economics, 2001, 47(3): 523-544.

La Porta R, LopezdeSilanes F, Shleifer A. Government ownership of banks[J]. The Journal of Finance, 2002, 57(1): 265-301.

Lee C W J. Financial restructuring of state owned enterprises in China: the case of Shanghai Sunve Pharmaceutical Corporation[J]. Accounting, Organizations and Society, 2001, 26(7): 673-689.

Li H, Meng L, Wang Q, et al. Political connections, financing and firm performance: Evidence from Chinese private firms[J]. Journal of development economics, 2008, 87(2): 283-299.

Li H, Meng L, Zhang J. Why do entrepreneurs enter politics? Evidence from China[J]. Economic Inquiry, 2006, 44(3): 559-578.

Li H, Zhou L A. Political turnover and economic performance: the incentive role of personnel control in China[J]. Journal of public economics, 2005, 89(9): 1743-1762.

Li K, Wang T, Cheung Y L, et al. Privatization and risk sharing: Evidence from the split share structure reform in China[J]. Review of Financial Studies, 2011: hhr025.

Lin J Y, Cai F, Li Z. Competition, policy burdens, and state-owned enterprise reform[J]. American Economic Review, 1998: 422-427.

Mian A R, Khwaja A I. Do lenders favor politically connected firms? Rent provision in an emerging financial market[J]. Rent Provision in an Emerging Financial Market (December 2004), 2004.

Morck R K, Stangeland D A, Yeung B. Inherited wealth, corporate control and economic growth: The Canadian disease[R]. National Bureau of Economic Research, 1998.

Morck R, Wolfenzon D, Yeung B. Corporate governance, economic entrenchment and growth[R]. National Bureau of Economic Research, 2004.

Morck R, Yeung B, Yu W. The information content of stock markets: why do emerging markets have synchronous stock price movements?[J]. Journal of financial economics, 2000, 58(1): 215-260.

Obstfeld M. Can we sterilize? Theory and evidence[J]. 1982.

Olson M. The rise and decline of nations: Economic growth, stagflation, and social rigidities[M]. Yale University Press, 2008.

Ouyang A Y, Rajan R S, Willett T D. China as a reserve sink: The evidence from offset and sterilization coefficients[J]. Journal of International Money and Finance, 2010, 29(5): 951-972.

Petersen M A, Rajan R G. Trade credit: theories and evidence[J]. Review of financial studies, 1997, 10(3): 661-691.

Rajan R G, Zingales L. The great reversals: the politics of financial development in the twentieth century[J]. Journal of financial economics, 2003, 69(1): 5-50.

Rajan R G, Zingales L. Which capitalism? Lessons form the east Asian crisis[J]. Journal of Applied Corporate Finance, 1998, 11(3): 40-48.

Rajan R G. Insiders and outsiders: The choice between informed and arm'slength debt[J]. The Journal of Finance, 1992, 47(4): 1367-1400.

Ramalho R. The effects of an anti-corruption campaign: evidence from the 1992 Presidential impeachment in Brazil[J]. Unpublished Paper, 2003.

Reinhart C, Reinhart V. On the use of reserve requirements in dealing with capital flow problems[J]. 1999.

Rigobon R, Sack B. The impact of monetary policy on asset prices[J]. Journal of Monetary Economics, 2004, 51(8): 1553-1575.

Rooker T M. Corporate governance or governance by corporates? Testing governmentality in the context of China's national oil and petrochemical business groups[J]. Asia Pacific Business Review, 2015, 21(1): 60-76.

Sapienza P. The effects of government ownership on bank lending[J]. Journal of financial economics, 2004, 72(2): 357-384.

Schipper K, Thompson R. The impact of merger-related regulations on the shareholders of acquiring firms[J]. Journal of Accounting research, 1983: 184-221.

Shleifer A, Vishny R W. Politicians and firms[J]. The Quarterly Journal of Economics, 1994: 995-1025.

Shleifer A, Vishny R W. The grabbing hand: Government pathologies and their cures[M]. Harvard University Press, 2002.

Song Z, Storesletten K, Zilibotti F. Growing like china[J]. The American Economic Review, 2011, 101(1): 196-233.

Stuckler D, King L, McKee M. Mass privatisation and the post-communist mortality crisis: a cross-national analysis[J]. The Lancet, 2009, 373(9661): 399-407.

Walter C E, Howie F J T. Red capitalism: the fragile financial foundation of China's extraordinary rise[M]. John Wiley & Sons, 2011.

Wu W, Wu C, Rui O M. Ownership and the value of political connections: Evidence from China[J]. European Financial Management, 2012, 18(4): 695-729.

Yuan Q. Public Governance, Political Connectedness, and CEO Turnover: Evidence from Chinese State-Owned Enterprises[C]//24th Australasian Finance and Banking Conference. 2011.

Zhang Y, Barnett S A. Fiscal vulnerabilities and risks from local government finance in China[J]. 2014.

Table I Reforms on Chinese Banking Sector

Year	Measure	Purpose
1994	Establishment of policy banks	To overtake the tasks of granting policy loans from commercial banks.
1998	Reform of big four banks	To streamline the loan issuance procedure of big four banks and eliminate the power of local politician in that procedure
2001	Introducing the foreign strategic investor	To bring the pressure from foreign strategic investors and to promote the corporate governance
2003	Establishment of China Banking Regulatory Commission	To better monitoring the quality of bank loans and further exclude the intervention of local government over banks
2005	First Chinese commercial bank, the Chinese construction banks, are listed in HongKong	In order to monitor the performance of the management using the means of market
2011	Granting cross-province licence to previous city-level banks	To lower the entry barrier and encourage the competition within banking sector

This table outlines a series of reforms that was implemented in financial sectors in China in order to establish the political independence of commercial banks.

Table II The Difference between Firms with Various Political Connections

	Central SOE	Local SOE	Private
Predecessor before reform	Working Department of central government	Factories in various localities	Private firms
Administrative rank of its CEO	Ministerial and Vice-Ministerial	Departments or lower	None
Institution that makes the appointment Decision of its CEO	COD and SASAC Central	SASAD local and local government	Board
Preferential treatment	High	Medium	Low

This table outlines the difference between firms with various political connections. The firms are categorized into three types: firms affiliated with central government (*Central SOE*), with local government (*Local SOE*) and with private citizens (*Private*).

Table III Adjustments of Reserve Requirements in China

Annulment Date	Effective Date	Post-Adjustment Rate	Scale of Adjustment
05/01/2007	15/01/2007	9.50%	0.50%
16/02/2007	25/02/2007	10.00%	0.50%
05/04/2007	16/04/2007	10.50%	0.50%
29/04/2007	15/05/2007	11.00%	0.50%
18/05/2007	05/06/2007	11.50%	0.50%
30/07/2007	15/08/2007	12.00%	0.50%
06/09/2007	25/09/2007	12.50%	0.50%
13/10/2007	25/10/2007	13.00%	0.50%
10/11/2007	26/11/2007	13.50%	0.50%
08/12/2007	25/12/2007	14.50%	1.00%
16/01/2008	25/01/2008	15.00%	0.50%
18/03/2008	25/03/2008	15.50%	0.50%
16/04/2008	25/04/2008	16.00%	0.50%
12/05/2008	20/05/2008	16.50%	0.50%
07/06/2008	15/06/2008	17.00%	0.50%
15/09/2008	25/09/2008	17.50%	0.50%
08/10/2008	15/10/2008	17.00%	-0.50%
26/11/2008	05/12/2008	16.00%	-1.00%
22/12/2008	25/12/2008	15.50%	-0.50%
12/01/2010	18/01/2010	16.00%	0.50%
12/02/2010	25/02/2010	16.50%	0.50%
02/05/2010	10/05/2010	17.00%	0.50%
10/11/2010	16/11/2010	17.50%	0.50%
19/11/2010	29/11/2010	18.00%	0.50%
10/12/2010	20/12/2010	18.50%	0.50%
14/01/2011	20/01/2011	19.00%	0.50%
18/02/2011	24/02/2011	19.50%	0.50%
18/03/2011	25/03/2011	20.00%	0.50%
17/04/2011	21/04/2011	20.50%	0.50%
12/05/2011	18/05/2011	21.00%	0.50%
14/06/2011	20/06/2011	21.50%	0.50%
30/11/2011	05/12/2011	21.00%	-0.50%
18/02/2012	24/02/2012	20.50%	-0.50%
12/05/2012	18/05/2012	20.00%	-0.50%

This table reports all 37 events of adjustments of the reserve requirement by the PBoC, Chinas central bank, for the period between 2006 and 2012. The first column reports the announcement date of the adjustment decision while the actual adjustment date is reported in the second column. The third and fourth columns report the post-event reserve requirements (for large-scale financial institutions) and the scales of the adjustments.

Table IV Statistical Description of Firms with Various Political Connections

	All Firms N=2392		Private Firms N=1350		Local SOE N=698		Central SOE N=344		SOE Strategic N=55	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel A: Scales										
Total Assets	6876	1299	2221	701	6116	2074	20405	2254	34684	8019
Total Sales	3275	795	1253	410	2953	1150	9026	1508	17203	3390
Employment	5326	1637	2390	1123	4052	1934	13718	2488	25194	4731
Panel B: Financial Ratios										
Tobin's Q	2.15	1.62	2.57	1.80	1.90	1.51	1.98	1.62	1.73	1.44
ROA (%)	4.04	3.53	5.10	4.49	2.99	2.76	3.49	2.92	4.60	3.49
Cash Ratio (%)	15.31	12.38	15.47	12.60	14.65	11.89	16.26	12.89	12.95	8.95
Fixed Asset Ratio (%)	35.18	32.07	31.14	29.21	39.67	39.28	36.28	32.00	50.76	43.86
Loans	25.47	17.95	25.03	17.34	25.31	18.22	26.82	19.43	29.73	20.28
Short Term(%)	20.08	17.22	20.68	17.28	19.09	17.7	20.38	16.52	16.19	14.07
Long Term (%)	5.38	1.12	4.35	0.38	6.22	1.09	6.44	3.28	13.54	6.31
Weighted Cost of Capital (%)	5.92	5.25	5.94	5.47	5.70	5.21	6.35	4.95	4.81	4.70
Leverage Ratio (%)	55.20	52.73	61.37	53.95	51.92	52.26	51.05	50.85	52.90	53.02
Trade Credit (%)	1.83	1.58	4.23	3.36	0.14	0.50	1.12	1.42	-1.22	-1.38
Other Liabilities (%)	19.74	12.69	23.80	12.60	17.65	13.60	16.86	11.84	15.00	11.14
Panel C: Access to Financial Market										
Special Treatment Dummy	0.066	0	0.064	0	0.070	0	0.064	0	0.036	0
Bond Issuance Dummy	0.110	0	0.061	0	0.165	0	0.189	0	0.364	0
Bond Outstanding	0.002	0	0.001	0	0.003	0	0.003	0	0.010	0
Cross Listed in HongKong Dummy	0.032	0	0.008	0	0.040	0	0.110	0	0.236	0

This table reports the various characteristics of firms with different types of political connections. The first two columns are associated with the whole sample, followed by least connected private firms, local SOE firms, central SOE firms and most connected SOE firms in strategic industries. The types of firms characteristics are reported. The first three rows in Panel A provide information about firms scale. Various financial ratios, including the measures of profitability and measures of financial health of firms are reported in Panel B. Panel C provides information about the access of those firms to various financial markets.

Table V Baseline Regressions: Impact of Political Connection of Firms CARs

	CAR [-4,1]			
	(1)	(2)	(3)	(4)
1 [SOE]	-0.0013	-0.001287	-0.00149**	-0.000462
	(-1.28)	(-0.26)	(-2.28)	(-0.67)
1 [Central SOE]		-0.00504***		-0.00349***
		(-3.64)		(-4.02)
Total Assets			-0.001***	-0.001***
			(-8.47)	(-8.44)
ROA			-0.0177***	-0.0162***
			(-3.31)	(-3.04)
Cash			-0.00366	-0.00489*
			(-1.42)	(-1.87)
Tobin's Q			-0.00140***	-0.00147***
			(-7.62)	(-8.01)
Tangible Assets			0.00369**	0.00391**
			(2.35)	(2.24)
Constant	-0.00166**	-0.00166**	-0.00184***	-0.00173***
	(-2.10)	(-2.10)	(6.33)	(-4.43)
Fixed Effect	No	No	Industry*Event	Industry*Event
			*Year	*Year
N	24756	24756	50311	50311
R-square	0.001	0.001	0.013	0.013

This table reports the result of the baseline regression. *1 [SOE]*is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. *Total Assets* are the total set of assets of those listed firms.*ROA* is the ratio of the annual return over book assets. *Cash* is the total cash holding divided by the total book assets. *Tobins Q* is the market to book ratio of firms equity. The *tangible assets* are the total PP&E over the total book assets. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect..*,**,*** and indicate significance at 10%, 5%, and 1%, respectively.

Table VI Effect of Political Connection over Firms categorized by Size and Industry

	CAR [-4,1]									
	Connected	Non-Connected	Larger	Smaller	Algriculture	Light Inudstry	Heavy Industry	Transportation	Finance	Service
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 [SOE Central]			-0.003***	-0.003***	-0.00416	-0.004***	-0.009**	-0.0007	-0.00371	-0.004**
			(-2.89)	(-3.39)	(-0.52)	(-3.71)	(-2.40)	(-0.40)	(-0.88)	(-2.55)
Total Assets	-7.5e-08***	-0.00018***	-5.6e-08***	-0.00124***	-2.26E-07	-0.0015***	-1.95E-08	-7e-08***	-0.0012***	-2.25E-08
	(-6.78)	(-3.96)	(-5.92)	(-3.50)	(-0.34)	(-3.35)	(-1.01)	(-3.13)	(-4.11)	(-0.72)
ROA	-0.00172	-0.0227***	-0.0181	-0.0128**	0.0449	-0.0206***	-0.00139	-0.0124	-0.0309	-0.0218
	(-0.14)	(-3.89)	(-1.10)	(-2.21)	-0.91	(-3.43)	(-0.06)	(-0.65)	(-1.57)	(-1.22)
Cash	0.00284	-0.00422	0.000266	-0.00439	-0.00332	0.0018	0.00546	-0.00798	-0.0104	-0.0114**
	-0.43	(-1.46)	-0.05	(-1.50)	(-0.14)	-0.5	-0.4	(-0.70)	(-1.17)	(-2.09)
Tobin's Q	-0.00231***	-0.00199***	-0.002***	-0.00245***	-0.00203	-0.002***	-0.000811	-0.00223**	-0.000298	-0.002***
	(-3.87)	(-9.39)	(-2.59)	(-10.91)	(-1.58)	(-8.14)	(-0.90)	(-2.25)	(-0.30)	(-5.46)
Tangible Assets	0.00852**	0.00299	0.0104***	0.00138	0.00184	0.00792***	0.0291**	-0.00409	0.0123	-0.0105**
	-2.02	-1.55	-3.54	-0.66	-0.11	-3.33	-2.6	(-0.78)	-1.25	(-2.34)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event*Year	Industry*Event*Year	Industry*Event*Year	Industry*Event*Year	Event*Year	Event*Year	Event*Year	Event*Year	Event*Year	Event*Year
N	9743	40617	13762	36598	968	30494	2289	4328	4154	8127
R-square	0.023	0.013	0.051	0.014	0.136	0.013	0.094	0.051	0.138	0.028

This table reports the result of the regression with the whole sample categorized by various characteristics of firms, including political connection, size and industry. *1 [SOE]*is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. *Total Assets* are the total set of assets of those listed firms.*ROA* is the ratio of the annual return over book assets. *Cash* is the total cash holding divided by the total book assets. *Tobins Q* is the market to book ratio of firms equity. The *tangible assets* are the total PP&E over the total book assets. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect..*,**,*** and indicate significance at 10%, 5%, and 1%, respectively.

Table VII Real Effects of Increases in Reserve Requirements

	Δ Long-Term Loans	Δ Investment	Δ Profitability	Δ Employment
	(1)	(2)	(3)	(4)
1 [SOE]	-0.173	-0.0973	-0.0234	463.8*
	(-1.3)	(-1.50)	(-0.44)	(-1.7)
1 [Central SOE]	-0.251*	-0.1254*	-0.1025*	-1202.5*
	(-1.69)	(-0.180)	(-1.88)	(-1.76)
Control	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	856	699	1241	1225
R-square	0.155	0.059	0.049	0.044

This table reports the results of the regressions with dependent variables indicative of the real effects of reserve requirements. The real effect variables include: changes in long-term loans, changes in investment, changes in profitability and changes in employment. All variables are measured as the difference between the growth rate of the period 20042006 and the period 20072009. 1 [SOE] is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table VIII Expected and Unexpected Adjustments of Reserve Requirements

	CAR [-4,1]			
	Unexpected CPI Announcement		Unexpected Bank Reactions	
	Yes	No	Yes	No
	(1)	(2)	(3)	(4)
1 [SOE]	-0.00111	0.000135	-0.00165*	0.00230*
	(-1.03)	(0.16)	(-1.88)	(1.96)
1 [Central SOE]	-0.00371***	-0.00126	-0.00455***	-0.00103
	(-2.76)	(-1.14)	(-4.05)	(-0.73)
Control	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	24282	26078	35467	14893
R-square	0.017	0.015	0.016	0.021

This table reports the results of the regressions over the expected and unexpected reserve requirements adjustments. Columns 1 to 2 report the expected and unexpected categorization according to the CPI announcement method. That is, whether a CPI announcement occurred within 15 days before the adjustment and the direction of the CPI figure is consistent with the direction of the adjustment. Columns 3 to 4 report the expected and unexpected categorized according to bank reaction methods. That is, whether the announcement of reserve-requirement adjustment caused a strong reaction on the part of commercial banks. *1[SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table IX Various Measures of Political Connection

	CAR [-4,1]					
	(1)	(2)	(3)	(4)	(5)	(6)
1 [SOE]	-0.000533	-0.000513	-0.000416	-0.000458	-0.000437	-0.000443
	(-0.74)	(-0.75)	(-0.61)	(-0.67)	(-0.63)	(-0.64)
1 [Central SOE]	-0.00231***	-0.00341***	-0.00346***	-0.00351***	-0.00349***	-0.00349***
	(-2.67)	(-3.91)	(-4.00)	(-4.04)	(-4.01)	(-4.02)
1 [Higher Administrative Ranking]	-0.00153***					
	(-2.34)					
Government Experience		-0.0000830**				
		(-2.00)				
1 [Long-Term Loans]			-0.0107***			
			(-2.80)			
1 [Bong Issuance]				-0.0313**		
				(-2.41)		
Bonds Outstanding					-0.00146*	
					(-1.76)	
1 [Hong Kong Listing]						-0.00178
						(-1.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	50360	50360	50360	50360	50360	50360
R-square	0.013	0.013	0.013	0.013	0.013	0.013

This table reports the regression with various measures of political connections. *Government Experience* is the total ratio of the top management team members who have working experience in the government. *1 [Higher Administrative Ranking]* is the dummy variable that assigns 1 to SOE central firms that have a higher administrative rankings and 0 otherwise.*1 [Long-Term Loans]* is the dummy variable that assigns 1 to firms that have bank loans that expire after more than one year and 0 otherwise. *1 [Bong Issuance]* is the dummy variable that assigns 1 to firms that have access to the Chinese bond market and 0 otherwise. *Bonds Outstanding* is the total amount of bonds outstanding. *1 [Hong Kong Listing]* is the dummy variable that assigns 1 to firms that have access to the HongKong stock market.*1 [SOE]*is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the total assets, ROA, Cash ratio, *Tobins Q* and Tangible ratio. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at the 10%, 5%, and 1% level, respectively.

Table X Robustness Test: Various Time Windows and Adjustments of Various Directions

	CAR						
	[-1,1]	[-14,-4]	[1,11]	Jan 27, 2007	May 30, 2007	Downward	Upward
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 [SOE]	-0.000284	0.00103	0.00172	-0.0255	0.000363	-0.00105	-0.00106
	(-0.63)	(1.05)	(1.05)	(-1.40)	(0.01)	(-0.78)	(-1.37)
1 [Central SOE]	-0.00173***	0.0013	-0.000181	-0.00371	0.00538	-0.000964	-0.00410***
	(-3.40)	(1.23)	(-0.20)	(-0.42)	(0.18)	(-0.57)	(-4.26)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	53547	53509	53524	2233	2220	10492	39868
R-square	0.014	0.014	0.015	0.435	0.311	0.014	0.014

This table reports the results of the regressions as a robustness test. Columns 1 to 5 report the regression with dependent variable CAR coming from various time window lengths. Column 6 and 7 report the regression with only upward or downward adjustments of reserve requirements.*1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XI Robustness Test: Excluding Part of the Observations and SUR Method

	CAR				SUR
	ST Firms excluded	Real Estate Excluded	Non-Traded Reform Excluded	Privatized Firms Excluded	[-4,1]
	(1)	(2)	(3)	(4)	(5)
1 [SOE]	-0.000194	-0.00014	-0.000334	-0.000309	-0.000719**
	(-0.27)	(-0.19)	(-0.47)	(-0.42)	(-2.50)
1 [Central SOE]	-0.00368***	-0.00360***	-0.00356***	-0.00350***	-0.000319
	(-4.13)	(-3.55)	(-4.02)	(-3.93)	(-0.85)
Control	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	45772	37591	45620	44244	26017
R-square	0.015	0.014	0.013	0.013	0.048

This table reports the results of the regressions as a robustness test. Columns 1 to 4 report the regression of the pool of samples that exclude ST firms, real estate firms, those firms that experienced non-traded reforms and privatized SOEs, respectively. Column 5 reports the regression with the dependent variable, CAR, calculated using SUR.*1[SOE]*is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XII Impacts of Related Banks on the CAR of Firms during the Adjustment of Reserve Requirements

	CAR [-4,1]					
	LTD Ratio		Inter-Bank Borrowing Ratio		Bad Loan Ratio	
	Equal-Weighted	Loan-Weighted	Equal-Weighted	Loan-Weighted	Equal-Weighted	Loan-Weighted
	(1)	(2)	(3)	(4)	(5)	(6)
Ratio	0.0027	0.0187	0.00101	0.000668	-0.00000299	-0.000144
	(0.15)	(0.99)	(0.57)	(0.41)	(-0.01)	(-0.74)
1 [SOE]	-0.0000073	-0.00102	-0.000238	-0.000807	-0.0000073	-0.00102
	(-0.01)	(-0.97)	(-0.23)	(-0.90)	(-0.01)	(-0.97)
1 [SOE] * Ratio	-0.00152	-0.0155	-0.00207	-0.00321	-0.000123	-0.000178
	(-0.07)	(-0.68)	(-0.91)	(-1.51)	(-0.39)	(-0.64)
1 [Central SOE]	-0.00299***	-0.00434***	-0.00333***	-0.00356***	-0.00299***	-0.00434***
	(-2.77)	(-2.99)	(-3.22)	(-3.19)	(-2.77)	(-2.99)
1 [Central SOE] * Ratio	-0.0201***	-0.0318***	-0.00572*	-0.00751***	-0.000171	-0.000343
	(-2.61)	(-2.07)	(-1.85)	(-2.76)	(-0.41)	(-0.87)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	39738	37680	40766	38874	40766	38874
R-square	0.014	0.014	0.014	0.014	0.014	0.014

This table reports the results of the regressions with the interactions between political connection dummies and various measures of the vulnerability of related banks. Columns 1 to 2 use the banks LTD ratio as the measure of their vulnerability to adjustments of reserve requirements. Columns 3 to 4 use the ratio of the inter-bank borrowing position to its total book assets as the measure of vulnerability to adjustments of reserve requirements. Columns 5 to 6 use the banks bad loans as the measure of vulnerability to adjustments of reserve requirements. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XIII Impact of Firms Financial Reliance on the CAR of Firms during the Adjustments of Reserve Requirements

	CAR [-4,1]			
	Reliance on External Finance		Requirement for Tangibility Assets	
	High	Low	High	Low
	(1)	(2)	(3)	(4)
1 [SOE]	-0.000561	-0.00037	0.000113	-0.00137
	(-0.58)	(-0.38)	(0.13)	(-1.17)
1 [Central SOE]	-0.00486***	-0.00283***	-0.00444**	-0.00339***
	(-3.37)	(-2.67)	(-3.40)	(-3.13)
Control	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event	Industry*Event	Industry*Event	Industry*Event
	*Year	*Year	*Year	*Year
N	26757	23603	31868	18492
R-square	0.015	0.017	0.015	0.014

This table reports the results of the regressions for the sub-sample of firms with varied reliance on external finance. In Columns 1 to 2 I use the index of reliance over external finance for US firms as a criterion to divide the whole sample. In Columns 3 to 4 I use the portion of tangibility for US firms as a criterion to divide the whole sample. For both criteria, the regression over those firms with higher external finance/tangibility is reported to the left of the pair. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XIV Impact through Other Channels of Political Connections Affecting Firms CARs

	CAR [-4,1]			
	Δ Tangibility Ratio	Δ Tobin's Q	Δ Predicted ROA	Δ State-Owned Banks Loans
	(1)	(2)	(3)	(4)
1 [SOE]	-0.000803	-0.000848	-0.000307	-0.0000249
	(-0.59)	(-0.68)	(-0.37)	(-0.02)
1 [SOE] * Ratio	0.00129	0.000456	0.000052	0.000318
	(0.39)	(1.02)	(1.27)	(0.11)
1 [Central SOE]	-0.00508***	-0.00264***	-0.00370***	-0.00273***
	(-3.06)	(-2.51)	(-2.72)	(-2.33)
1 [Central SOE] * Ratio	0.00429	-0.000312	2.71E-09	-0.00136
	(1.21)	(-0.47)	(0.14)	(-0.37)
Control	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year	Industry*Event *Year
N	50360	50360	37623	33284
R-square	0.013	0.013	0.019	0.014

This table reports the results of the regressions with the interactions between political connection dummies and variables indicative of other channels through which the adjustment of reserve requirement may cause differential impact on firms with various political connections. The variables used for interactions are: the changes of tangibility ratios, the changes of a firms Tobins Q, the change of predicted ROAs and the changes of the portion of loans from the state-controlled banks, respectively. All variables are measured between 2007 and 2011.*1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XV Impact of Corporate Governance and Industries Competitiveness on the CAR of Firms during the Adjustments of Reserve Requirements

	CAR [-4,1]			
	Violations	CEO with Plural Positions	Option Incentives	Highly Concentrated Industry
	(1)	(2)	(3)	(4)
1 [SOE]	-0.000604	-0.0000108	-0.000802	-0.000499
	(-0.84)	(-0.01)	(-1.02)	(-0.53)
1 [SOE] * Ratio	0.00141	-0.00119	-0.00176	-0.00122
	-0.62	(-0.84)	(-0.92)	(-0.17)
1 [Central SOE]	-0.00333***	-0.00341***	-0.00290***	-0.00408***
	(-3.65)	(-3.29)	(-3.20)	(-3.42)
1 [Central SOE] * Ratio	-0.0038*	-0.00398*	-0.00587**	-0.0151***
	(-1.67)	(-1.69)	(-2.16)	(-2.73)
Control	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event	Industry*Event	Industry*Event	Industry*Event
	*Year	*Year	*Year	*Year
N	50360	46552	50360	50360
R-square	0.013	0.014	0.013	0.013

This table reports the results of the regressions with the interactions between political connection dummies and variables indicative of corporate governance and industry competitiveness. The variables used for interactions are: the times those listed firms violate regulations of the Chinese Security Regulations Committee and exchanges, whether the CEO of the firm also holds the position of chair of the board, whether the firm has any option scheme and the portion of the sales of top 10 firms to the sales of the whole industry. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with the central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XVI Loan Characteristics over the CAR of Firms during the Adjustments of Reserve Requirements

	CAR [-4,1]					
	Loan Period		Interest Rate		Secured Ratio	
	Equal-Weighted	Size-Weighted	Equal-Weighted	Size-Weighted	Equal-Weighted	Size-Weighted
	(1)	(2)	(3)	(4)	(5)	(6)
1 [SOE]	-0.0000354	-0.0000502	-0.000367	-0.00185	-0.0000526	-0.000745
	(-0.03)	(-0.04)	(-0.08)	(-0.38)	(-0.06)	(-0.83)
1 [SOE] * variable	-0.000322	-0.000463	-0.000163	0.0000927	-0.0027	-0.000278
	(-1.12)	(-1.15)	(-0.24)	-0.13	(-0.97)	(-0.12)
1 [Central SOE]	-0.00343***	-0.00568***	-0.01458***	-0.01248***	-0.00443***	-0.00438***
	(-2.35)	(-3.83)	(-2.61)	(-2.22)	(-4.27)	(-4.23)
1 [Central SOE] * variable	-0.00111**	-0.00134**	-0.00247***	-0.00228***	0.0125**	0.0150***
	(-2.12)	(-2.48)	(-2.49)	(-2.30)	-2.25	-3.74
Control	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event
	*Year	*Year	*Year	*Year	*Year	*Year
N	36323	36853	12990	12335	45394	42562
R-square	0.014	0.014	0.024	0.024	0.014	0.014

This table reports the results of the regressions with the interactions between political connection dummies and loan characteristics variables for each firm. The variables used for interactions are: the loan period, the interest rate and the ratio of secured loans to the total loans. For each variable, two varieties are created by aggregating all their loans: the one equal-weighted and the one weighted according to the scale of each loans.*1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XVII Local Governments Fiscal Status over the CAR of Firms during the Adjustments of Reserve Requirements

	Higher Fiscal Expenditure		Lower Land Sales		Special Economic Zone		Listed Independent City	
	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 [SOE]	-0.000305	-0.00669	-0.000985	0.000543	-0.000189	-0.00305	-0.000372	-0.00193
	(-0.44)	(-1.05)	(-1.25)	-0.4	(-0.26)	(-1.36)	(-0.51)	(-0.91)
1 [Central SOE]	-0.00361***	0.00935	-0.00490***	-0.00282***	-0.00355***	-0.000977	-0.00355***	-0.000334
	(-4.12)	(1.52)	(-3.08)	(-2.81)	(-3.86)	(-0.40)	(-3.90)	(-0.12)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event	Industry*Event
	*Year	*Year	*Year	*Year	*Year	*Year	*Year	*Year
N	49543	817	35321	15039	45625	4735	45170	5190
R-square	0.013	0.114	0.012	0.021	0.013	0.034	0.013	0.033

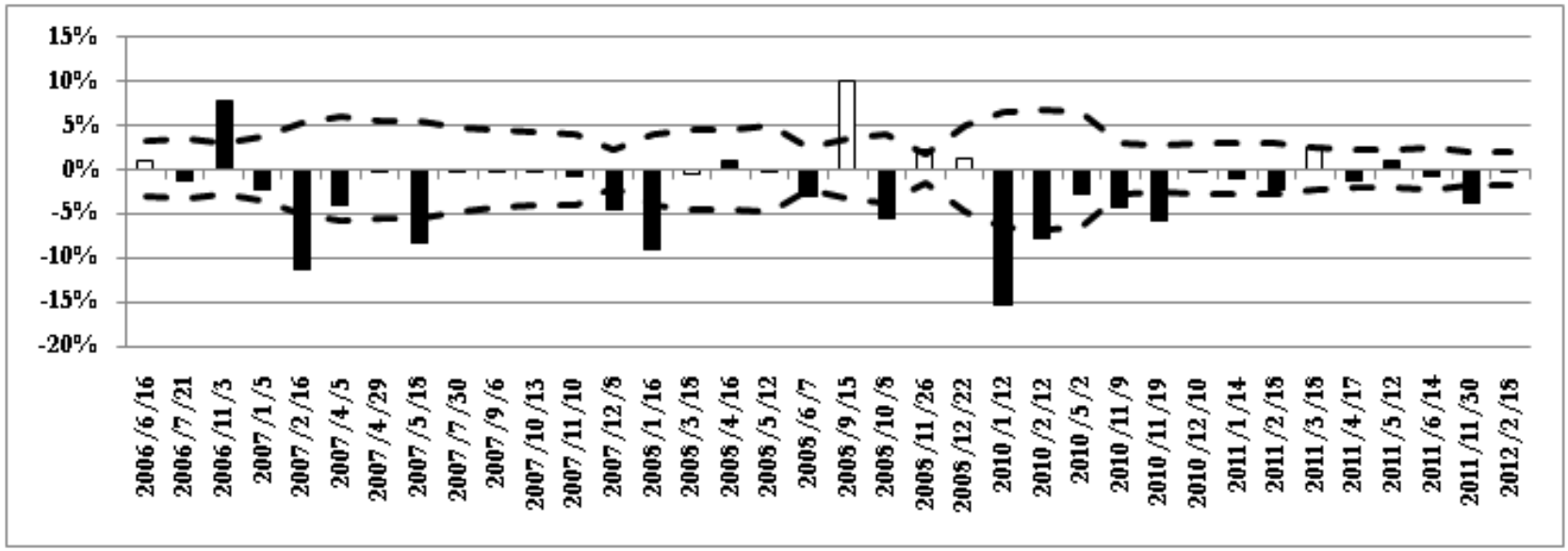
This table reports the results of the regressions over the firms located in cities with scarce fiscal resources or not. The whole sample is split according to four criteria: whether the city is associated with an above-median fiscal expenditure divided by fiscal income, whether the city is associated with a below-median land scale growth rate, whether the city has a Special Economic Zone or has a listed independent city status. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Table XVIII Impact of Probability of Default and Bailout over the CAR of Firms during the Adjustments of Reserve Requirements

	CAR [-4,1]			
	(1)	(2)	(3)	(4)
1 [SOE]	-0.00149**	-0.000462	-0.000235	-0.00022
	(-2.28)	(-0.67)	(-0.35)	(-0.21)
1 [SOE Central]	-0.00349***	-0.00134	-0.0009	
		(-4.02)	(-1.01)	(-0.49)
Δ Default Probability		-0.368***	-0.354***	
			(-3.57)	(-3.44)
Δ Fiscal Revenue			0.154***	
				(1.76)
Constant	Yes	Yes	Yes	Yes
Fixed Effect	Industry*Event	Industry*Event	Industry*Event	Industry*Event
	*Year	*Year	*Year	*Year
N	50311	50311	50311	50311
R-square	0.013	0.013	0.015	0.016

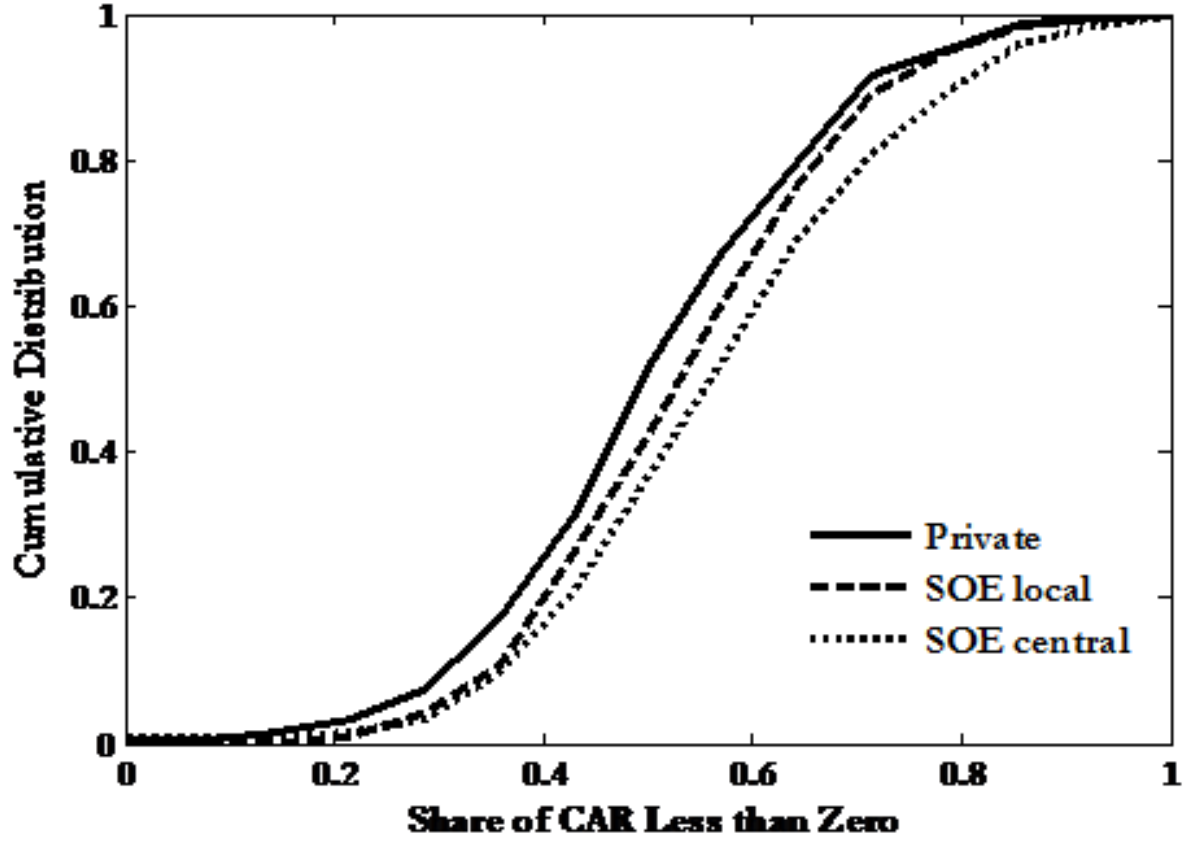
This table reports the results of the regression with the control variables for the changes of default probability and the total fiscal revenue of local government. The change of default probability is obtained from CSMAR database and it is the difference between the default probability of each company measured at the beginning period and the end period of each monetary tightening cycle. The change of fiscal revenue is the difference between sum of annual fiscal revenue of local government of each company measured at the beginning period and the end period of each monetary tightening cycle. *1 [SOE]* is the dummy variable that is 1 for SOE firms and 0 otherwise. *1 [Central SOE]* is the dummy variable that is 1 for SOE firms that are affiliated with central government and 0 otherwise. The control variables include the *total assets*, *ROA*, *Cash ratio*, *Tobins Q* and *Tangible ratio*. Dummies indicative of each industry, each event and each year are also used as control variables to exclude the fixed effect.*,**,*** indicate significance at 10%, 5%, and 1%, respectively.

Figure 1. Consistency in Regard to Categorizing Events between the CPI Announcement Method and Financial Institutions Method



This figure reports the financial institutions CAR for adjustments of reserve requirements between 2006 and 2012. Data are from Bloomberg and Peoples Bank of China. The graph shows the financial institutions CAR during the four-day window [-1 / 2] of adjustments of reserve requirements in China. The sign of CAR in those instances of decreases in the reserve requirement has been flipped. The black bars indicate that those events are unanticipated: that is, there was no announcement of CPI figures with CPI innovation of the same sign with adjustment of reserve requirement within 15 days prior to the event . The white bars indicate that these events are anticipated. The dash line is the 10% significance critical value estimated using 30 days excess return of financial institutions prior to the events.

Figure 2. Consistency in Regard to Categorizing Events between the CPI Announcement Method and Financial Institutions Method



This figure reports the cumulative distribution of negative reactions of listed firms. The whole sample of Chinese listed firms is categorized into three groups: private firms, local SOE firms and central SOE firms, according to the closeness of their political connections. For each firm, the portion of its negative market reaction, measured by CARs, to 12 unexpected adjustments of reserve requirements, is calculated. The curve is the distribution of negative reactions of all firms within each group of firms with the same level of political connection.