

Financial Intermediation of Chinese Banks during WTO  
Transition

by

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## Abstract

The empirical literature on China's banking sector shows a prevalence of connected lending practices that favor unviable state-owned enterprises (SOEs) while discriminating against productive private enterprises. This paper extends the data to 2005 to investigate whether the integrity of lending policy has improved during recent periods when the government of China allegedly made a significant stride in reforming its banking sector as it prepared for WTO compliance. The paper finds that the response of bank loans to economic fundamentals remains persistently weak (or even strongly negative) while unprofitable SOEs continue to attract bank loans. We also find evidence that suggests the interbank market is highly fragmented, so banks are still limited in lending by their collections of household deposits. These pieces of evidence cast some doubt on the efficacy of recent banking reform.

## **I. Introduction**

Despite enormous progress since 1979, when Deng Xiaoping enacted major economic reforms, China's economy is still ridden with problems. In particular, China's banking sector has long been singled out as the weakest link in the booming economy as evidenced by a persistently high level of nonperforming loans (NPLs). Given that the problem of NPLs typically plagues economies in recession, the question that has drawn a great deal of attention is why the banking sector has been so weak in the world's fastest growing economy. It has been argued that Chinese banks face two classic problems, which are associated with government ownership of banks in general—namely, soft budget constraints and politically motivated “connected-lending”.<sup>1</sup> The first problem arises because the government is not able to make a credit commitment not to bail out banks and their borrowers, which in turn leads to inefficiency, lax credit standards, and persistent bad loan problems (e.g., Bonin and Huang, 2001; Dobson and Kashyap, 2007; Yao, et al, 2007).

The second and more fundamental problem is that China's state-owned commercial banks (SOCBs) were inefficiently lending according to policy goals and under the prompting of the government rather than market incentives. Many prior empirical studies indeed confirm this (e.g., Wei and Wang, 1997; Park and Sehart, 2001; Brandt and Li, 2003; Boyreau-Debray, 2003; Boyreau-Debray and Wei, 2004, 2005; Cull and Xu, 2000, 2003). The empirical results of these papers, however, are based upon banking data that are somewhat outdated, and thus they might not be

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<sup>1</sup> See, for example, Berglof and Roland (1998), La Porta, Lopez-de-Silanes, and Shleifer (2002), Sapienza (2004), Dinc (2005), Cole (2007), Imai (forthcoming).

applicable to the present condition and lending behavior of the banking sector in China.<sup>2</sup>

Moreover, the Chinese government has recently implemented a myriad of reforms to strengthen the balance sheet and governance of the banking sector, and these reform measures might have been effective in curtailing the importance of policy-driven lending and improving the integrity of lending practices. In the late 1990s, the government established policy banks to assume explicit responsibility for policy lending and asset management companies (AMCs) to acquire and dispose of NPLs. From 2001, the year China officially became a member of the World Trade Organization (WTO), until the end of 2006, when foreign banks were permitted to operate in China as freely as domestic Chinese banks, the Chinese government enacted regulation to improve capital adequacy and risk management in order to prepare its banking sector for competition from the foreign banks that were eager to get a piece of the vast Chinese market. Notably, the government recapitalized the five largest SOCBs, Bank of China (BOC), Industrial and Commercial Bank of China (ICBC), China Construction Bank (CCB), Agricultural Bank of China (ABC) and the Bank of Communications (BoComm), which are also known as the “Big Five.” During this period, foreign banks have expanded their presence in China, primarily through partial ownership of domestic Chinese banks.

Whether or not these banking reforms are effective is a subject of debate. By slowly opening the market for smaller private, joint stock, and foreign banks, the government hoped to increase the average quality of financial intermediation in the

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<sup>2</sup> None of the four empirical studies just cited use datasets that extend past 1999 except for Boyreau-Debray and Wei, 2004, 2005, which study up to 2001.

economy. There is a fundamental contradiction underlying China's banking sector reform: by using the banks to finance floundering SOEs for the sake of maintaining social stability and avoiding unemployment, the Chinese authorities are undermining their own attempts to transform the state-owned banks into competitive commercial institutions (Dobson and Kashyap, 2006).

The transitions of the former Soviet bloc nations lend a number of interesting and unique examples of financial sector reform, but there are a few common experiences that appeared in several countries. Many of these formerly socialist economies implemented free market reforms quickly and aggressively, while others pursued a slower, gradualist approach. The rapid development of the real sector often coincided with unbalanced financial sector development, which led to gaps in the development of institutions and effective regulation (Bonin and Wachtel, 2003). Another general experience of transition economies was that governments repeatedly risked facing moral hazard as one-time bank recapitalizations proved difficult because the true condition of loan portfolios was only discovered over time. This delay was often caused by banks rolling over or otherwise concealing bad loans.

Several countries possessed unique aspects that are comparable to China's banking transition. Similar to the Big Five of China, the largest Hungarian bank, Országos Takarékpénztár és Kereskedelmi Bank, was protected from foreign acquisition. Foreigners could only own about one third of the bank. However, there was widespread foreign entrance throughout the rest of the Hungarian banking sector, which led to industry-wide improvements in bank performance and likely created positive spillover effects onto domestically-owned banks (Bonin and Wachtel, 2003).

In the Czech Republic, a hospital bank, which resembles China's AMCs, was created to acquire and resolve the bad loans of the Czech SOCBs. However, the Czech experience demonstrates that dealing with the existing stock of bad loans must be complemented by reducing the flow or creation of bad loans. The Czech voucher privatization strategy preserved connections between banks and their bad clients, so bad loans continued to accumulate after the bad loan stock had been transferred to the hospital bank (Bonin and Wachtel, 2003; Cull, Matesova, and Shirley, 2002).

The goal of this paper is to examine both the particular reforms and changes that occurred in the Chinese banking sector during this period of transition, and whether or not these actions have led to improvement in the efficiency of lending by Chinese banks. More specifically, we will update the results of Park and Sehart (2001), which use provincial level data on bank lending from 1991-1997, and explore whether or not the increase in policy lending indicated in their data still continued to 2005 as additional reforms were undertaken for compliance with WTO regulations and the number and influence of foreign banks in the Chinese economy increased.

To briefly summarize our results, in our sample of 25 Chinese provinces from 1996-2005, the response of the financial intermediation of Chinese banks to economic fundamentals remained persistently weak (or even negative), while at the same time their response to policy variables remain persistently positive and strong. That is, we find no evidence that banks improved lending efficiency or curbed policy-lending practices. Moreover, the interbank market appears to remain highly fragmented, so banks are limited in lending by their collections of household deposits. These pieces of evidence cast some doubt on the efficacy of recent banking reform, and perhaps

the fundamental reform requires substantial shifts in political incentives of the government to opaquely keep the support of SOEs' stakeholders via connected lending.

The rest of the paper is organized as follows. Section II covers the recent history and reforms of the Chinese banking sector and, in particular, China's transition into the WTO. Section III briefly reviews the literature on government ownership of banks in general and the empirical literature on the Chinese banking sector. Section IV discusses this paper's model and methodology. Section V presents data and results, and section VI concludes.

## **II. Reform and Structure of the Chinese Banking Sector from 1991-2006**

### *1) Reform during the 1990s*

The Chinese banking sector is dominated by the Big Five. The group was created in the 1980s from the People's Bank of China (PBC), which is now the central bank but previously acted as a socialist mono-bank. In 2005, these banks held over 50% of both assets and liabilities in the total Chinese banking sector, although, this share has been declining in recent years, as is depicted in Figures 1 and 2. Once established, the Big Five engaged primarily in policy lending to large SOEs. SOEs are one of the primary employers in China, employing approximately 55% of the total workforce as of 2006 (*China Statistical Yearbook 2007*).

Park and Sehart (2001) discuss six critical policy changes and government interventions that took place during the 1990s: (1) development and enforcement of government credit plan targets, (2) centralization of PBC relending, (3) ratio loan



management, (4) implementation of the Commercial Bank Law, (5) creation of policy banks, and (6) the closing and reopening of the interbank market.

The government's enforcement of credit targets established by the State Planning Commission was primarily in terms of providing guidance to the banks until July 1993 when the government tightened policy by mandating that banks obey credit targets in order to ward off high inflation and reduce excessive bank lending. The guidance policy was resumed in 1995. In order to help meet the government's credit targets, the PBC engages in relending where it provides low-interest loans to banks that are low on funds. Before 1994, PBC branches were responsible for the majority of relending, so it was often done corruptly as bank branch officials would lend according to the directions of local government officials who controlled the branch managers' compensation. In order to address this issue, in 1994 the PBC created three national policy banks through which it would centralize its relending.

In 1994, the Chinese regulators also reformed limits on the ratio between loans and deposits. They established a maximum loans-to-deposits ratio for each bank's national operations, which allowed the banks to move household deposits across branches (Park and Sehart, 2001). In 2005, the maximum ratio stood at 60% (Dobson and Kashyap, 2006).

The commercial bank law was enacted in 1995 and was aimed at encouraging market-based practices at Chinese banks (Mehran and Quintyn, 1996). It created minimum capital adequacy ratios that were compliant with Basel international banking standards and sought to make managerial incentives more profit-oriented (Park and Sehart, 2001).

Regional fragmentation of the banking market remains a major challenge to the Chinese banking sector. Without regional capital mobility, banks end up financing investment projects with negative net present value (NPV) in surplus regions while failing to finance positive NPV investment projects in deficit regions. Despite having an active interbank market after it was first established in 1986 until 1993, major outflows of funds from the formal banking sector led the government to suspend virtually all interbank activities. In 1996, the government reestablished a single national interbank market in Shanghai, which was substantially more regulated than its decentralized predecessor. The new interbank market allowed only short-term lending and permitted only the national headquarters of each bank to participate, thus causing bank branches to depend on their headquarters for all interbank lending.

## *2) Non-performing loans and recapitalizations*

The major problems of Chinese banks are the high levels of NPLs and low capital-to-asset ratios. As the economy began to become more market-oriented during the 1980s and 1990s, the potential closure of unviable SOEs presented the threat of drastically increasing unemployment and thus social instability. The banks were then used to finance the inefficient SOEs in order to maintain social stability with what was essentially an opaque form of unemployment payments by the government that ended up as NPLs on the banks' balance sheets (Nabeshima, Perkins, and Yusuf, 2006; Dobson and Kashyap, 2007).

The NPL problem is two-fold: the banks need to address both the current stock of accumulated NPLs and also stop the flow of NPLs that result from continual inefficient lending. The Chinese government created the three policy banks as one

measure to remove NPLs from the Big Five. The policy banks are separate from the Big Five and are responsible for policy lending, allowing the Big Five to clean up their balance sheets and act as truly commercial banks. However, the policy banks were too small and unable to carry out all policy lending, thus placing the burden back on the Big Five. The Big Five not only continued to directly fund policy projects and SOEs, but also indirectly propped up the policy banks as the government leaned on them to purchase policy bank bonds (Cull and Xu, 2003). As a measure to alleviate the banks of the high levels of NPLs, in 1999 the Chinese government established four asset management companies (AMCs)—one for each of the Big Five, except BoComm—that would purchase the bad loans from the banks and seek to recover whatever was possible. Nonetheless, the Big Five themselves maintained a significant stock of NPLs.

The Chinese government has performed several recapitalizations of the Big Five in an effort to increase their capital adequacy (Fan and He, 2004). The creation of the AMCs was essentially a US\$170 billion bailout done in conjunction with a \$32 billion capital injection for the Big Five, except BoComm (Balfour, 2004). At the end of 2003, the CCB and BOC both received \$22.5 billion from the government to help ease the burden of NPLs and improve corporate governance (*China Daily*, 3 Dec. 2004). In 2004 the CCB also received a tax break of just under \$2 billion, and in 2005 the ICBC received a \$15 billion cash bailout (*Crienglish.com*, 13 June 2005). As recently as August 2007, the Chinese government announced a \$20 billion bailout for the China Development Bank (CDB), one of the policy banks, in an effort to prepare it for transformation into a commercial bank (*South China Morning Post*, 7 Aug.

2007). By engaging in bailouts, the government runs the risk of moral hazard and is perpetuating a soft budget constraint on the banking sector. However, if the latest recapitalizations lead to appropriate and successful corporate governance reforms and it is made clear that these bailouts will be the last, these actions could have a long-run positive effect on the banking sector (Allen, Qian, and Qian, 2005).

According to official statistics, these reform measures have been relatively successful in reducing the ratio of NPLs to total loans and strengthening balance sheets within the SOCBs. After the first quarter of 2004, approximately 19.15% of total loans for the SOCBs were non-performing. Two years later, the Chinese Banking and Regulatory Committee (CBRC) reported that this number had been nearly halved to 9.78%. Official estimates also report that the total value of NPLs dropped during this time. Nonetheless, as is the case with most official Chinese data, there is reason to be skeptical of these numbers, which several authors warn may be substantially higher than what is commonly reported by the government (Allen, et al. 2005; Cai, Li, and Qiu, 2000; Lardy 1998).<sup>3</sup>

### *3) WTO admission and the role of foreign banks*

After years of negotiations, China was admitted into the WTO in 2001. The Chinese government agreed to a five-year process in which they would enact additional reforms annually to ease restrictions on the banking sector in order to comply fully with WTO rules by the end of 2006. Table 1 outlines the reforms associated with this process and reports the cities added each year in which foreign banks could engage in local renminbi (RMB) business. To prepare its banking sector

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<sup>3</sup> However, measuring NPLs can be difficult even for government authorities because of shady reporting by individual banks (Dobson and Kashyap, 2006).

for competition from the foreign banks that were eager to get a piece of the vast Chinese market, the Chinese government took some measures to strengthen the corporate governance and balance sheets of its banks.

Despite increasing openness, the Chinese government recently showed some hesitancy in opening the domestic banking market in the last year of WTO transition. In April 2006, the Chinese government announced that it would allow takeovers of small- and medium-sized banks, but not of the Big Five (*Daily Deal*, 11 Apr. 2006). Later that year, Chinese authorities imposed additional requirements on foreign banks before they were permitted to engage in local RMB business; i.e., they required foreign banks to be locally incorporated, which included having a separate board of directors for Chinese operations.

Fan and He (2004) report that large foreign banks seemed hesitant in entering the Chinese market. However, since the time of their writing, a number of major equity acquisitions of Chinese banks have taken place. In 2005, Bank of America spent \$2.5 billion for a 9 percent share of the CCB (*The New York Times*, 17 June 2005); later in the year, the Royal Bank of Scotland acquired a 5 percent stake of the BOC for \$1.6 billion (*The Banker*, 1 Sept. 2005). Moreover, Chinese banks seem to be looking at acquiring their own share of foreign banks. At the end of 2006, the CCB acquired Bank of America's Hong Kong operations for \$1.25 billion (*Chinadaily.com.cn*, 25 Aug. 2006). CDB's bailout was itself prompted by its agreement in July 2007 to purchase a \$13.6 billion stake in the British bank Barclays (*South China Morning Post*, 7 Aug. 2007). Increased connections and shared

ownership with large well-established international banks could potentially have a major positive influence on the governance of Chinese banks.

Currently, foreign banks have limited access to the domestic household deposits market (i.e., foreign banks depend on foreign capital for the vast majority of their lending). As they increase their presence in China, they will require access to more domestic capital and will create pressure for the development of the highly regulated domestic interbank market. In the first half of 2007, foreign-owned financial institutions lent RMB 655 million in new loans whereas the SOCBs lent RMB 9,472 million (PBCM, 2007). However, when compared to lending levels, the rate of participation in the inter-bank market is much higher among foreign banks than the SOCBs. Over the same period, foreign financial institutions had inter-bank inflows of RMB 1,446 million, which is over half of the RMB 2,333 million of inter-bank inflows to SOCBs. Other non-state-owned commercial banks had transacted the highest volume of interbank loans with an outflow of RMB 8,040 million over the first half of 2007.

Lin and Xu (2007) dispute the claim of Dobson and Kashyap (2006) that foreign banks will forego domestic RMB business and not play a significant role in increasing competition within the domestic Chinese banking market. Several Chinese regulations favor foreign banks. For example, the maximum loan to deposit ratio for foreign banks is 75%, whereas domestic banks have a maximum of 60%. Foreign banks also have a grace period of up to 5 years until they must fully comply with this requirement, during which time they also enjoy a lower tax rate of 15% versus the 25% of domestic banks. Falling interest rates on deposits are leading to an increase in

the official domestic interest rate gap, which has gone from 2.61% to 3.6% from 1996 to 2006 and is still lower than what Lin and Xu (2007) calculate to be the average interest rate gap (since interest rates are permitted to fluctuate within a window determined by the PBC). The Party and the PBC maintain this large interest rate spread in order to prop up the SOCBs. By keeping the domestic market highly profitable, the government is attempting to compensate for losses due to the high levels of NPLs. Moreover, Lin and Xu (2006) describe how from 2000 to 2006 the net interest margins have fallen in the home markets of many of the foreign banks operating in China, including major markets like Australia, France, Germany, Sweden, the United Kingdom, and the United States.

Lin and Xu (2006) cite Huang (2006) in reporting that foreign banks are expanding their branch networks in order to attract more RMB retail business. It is important to keep in mind that in expanding their branch networks to reach the rest of the Chinese market, foreign banks need not expand throughout the entire country. In fact, quite the opposite is true due to the vast inequality (both geographically and demographically) of China's development. With 60% of total deposits held by 10% of the population, the customer base that foreign banks are catering to is concentrated in the wealthy, coastal, urban centers, which are themselves dominated by Beijing, Shanghai, and the Hong Kong-Shenzhen-Guangzhou area (*China Daily*, Nov. 2001; *Washington Post Foreign Service*, Nov. 2001). Besides increasing competition through entry, Lin and Xu (2006) claim that the additional services and expertise that foreign banks offer will give them an immediate advantage over their Chinese

counterparts. Overstaffed domestic banks may also lose more experienced and valuable employees to the more savvy foreign banks.

By prompting greater inflows of foreign capital and bringing in new technologies, entrance into the WTO possesses some major advantages for the real sector. On the other hand, due to the poor condition of the banking sector, increased capital flows and foreign competition may enhance the threat of a financial crisis (Allen, et al. 2005). According to Woo (2003), the process of capital account liberalization needs to occur in stages since the Chinese regulatory environment currently would not be able to protect the country from a major capital flight or bank-run (as was seen during the Asian financial crisis of 1997, but from which China was largely spared), which could easily be facilitated by the growing number of foreign banks. Improved financial intermediation among China's banks must be a key factor in any potential remedy of financial sector problems. Bonin and Huang (2002) discuss how the presence of foreign banks in China should allay, rather than provoke, fears of another Asian financial crisis. Banking sector FDI, just like FDI in other sectors, should signal foreign banks' commitment to understanding the local economy and creating stability in the region.

#### *4) Bank ownership*

The makeup of the Chinese banking sector has been changing rapidly in the last decade. Figures 1 and 2 show the falling shares of the Big Five in the deposits and loans markets. Ferri (2008) examines the growth of "New Tigers," which are a group of 35 banks including the Bank of Communications, China International Trust and Investment Corporation (CITIC), China Everbright Bank, China Minsheng



Banking Corporation, and a number of smaller state-owned banks and city commercial banks. China's four largest banks, BOC, ICBC, CCB, and ABC (the "Big Four") are excluded from the group. He focuses on three provinces, Hubei, Sichuan, and Zhejiang, which he believes each resemble one of the three general experiences that categorize the majority of Chinese provinces.<sup>4</sup> The *New Tigers* have increased their market share from 12.8% in 1998 to 23.9% in 2005 and performed better than the Big Four over this same period in terms of both return on assets and return on equity. This vibrant subgroup of banks seems to offer China the possibility of "growing out" of its banking problem as more of these highly profitable banks slowly push the Big Four out of the market. However, Ferri (2008) shows that although ownership structures seem important, the success of the *New Tigers* can be primarily attributed to their focus on high-growth centers. Thus, they are able to direct lending towards growing private firms and more profitable SOEs. Moreover, in his sample of three provinces, the state's ownership share in the *New Tigers* is inversely related to growth, further suggesting that ownership may be endogenous to growth. Nonetheless, a broader survey of the literature strongly supports a causal relationship between bank ownership and performance, which becomes clearer when considering the ways in which private ownership affects banking practices.

According to Dobson and Kashyap (2006), the recent IPOs of several SOCBs seem to have been effective in changing the performance of bank managers. Since the IPOs took place, interviews with a number of managers at Chinese banks indicate that they are beginning to focus on improving profitability rather than simply increasing

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<sup>4</sup> Some municipalities (like Beijing, Shanghai, and Tianjin) and remote western semi-autonomous regions (like Tibet and Inner Mongolia) tend to be outliers in terms of growth and financial intermediation at the high and low extremes, respectively.

assets and market share. Berger, et al. (2008) demonstrate that minority foreign ownership has a positive effect on profit efficiency among both non-Big Four state-owned banks and majority private domestic banks. They suggest that one way minority foreign owners can improve bank performance is by assuming seats on the board and senior positions in management. They are able to leverage their superior experience to counsel fellow managers and board members on modern banking practices. However, Lin and Zhang (2008) find selection effects to be prevalent among banks involved in foreign acquisitions and public stock offerings. In their sample of 60 Chinese banks, 13 (22%) were involved in some change in corporate control, while the other 47 (78%) were not. Their results indicate that banks that underwent some form of privatization or reform performed better in terms of return on assets, return on equity, NPLs, and cost of income before the change took place. This result suggests that the government and foreign firms selected banks for IPOs and acquisition, respectively, that were initially in better shape than other banks.

#### *4) The macroeconomy*

Macroeconomic instability can also threaten the development of the banking sector. Boyd, Levine, and Smith (2001), find that financial development in countries with inflation above 15% is substantially lower than countries with lower inflation. They also find that inflation has a decreasing marginal effect on financial development as inflation increases. Thus, banking sectors in countries with inflation below this threshold are more sensitive to increases in inflation than those above. Right now, China could be facing an overheated economy with rising inflation (*The Economist*, 27 Sept. 2007). If this risk persists and were to reach the point of

hyperinflation, Chinese banks could experience disintermediation as the real value of deposits plummets. This was indeed the case in Russia in the early 1990s. In 1991, bank deposits and loans to businesses in Russia were each approximately 50% of GDP. By 1993, household deposits fell to 2% of GDP and business loans fell to 11% of GDP (Bonin and Wachtel, 2003). Although true hyperinflation may not currently be a foremost concern of the Communist Party's, inflation has been on the rise as the government faces a potentially overheating economy (Zhang, 2008).

### **III. Literature Review**

This section will review several papers that are highly relevant to this paper. As far as we know, there are 8 papers (Wei and Wang, 1997; Park and Sehart, 2001; Brandt and Li, 2003; Boyreau-Debray, 2003; Boyreau-Debray and Wei, 2005; Cull and Xu, 2000, 2003; Hao 2006) that specifically perform empirical investigations of bank lending behavior in China. We will summarize them here. We also briefly describe the literature on efficiency of Chinese banks as it is directly related to the integrity of lending policy.

Wei and Wang (1997) made the first attempt to examine the effects of the initial SOE share of total output on the growth of the ratio of loans to output, while controlling for differing capital intensities of firms and the initial level of the loans to output ratio, using a sample of 370 cities in the years 1986, 1989, 1990, and 1991. They find that there is a systematic bias of SOCBs towards SOEs and that the bias is quantitatively important. In their OLS estimation, they find that a one percent increase in SOE's share of output in a city leads to a 0.4% increase in the growth of

loans/output. Subsequently, in the fixed effects regression, they find that a one percent increase in SOE's share of output leads to a 2.3% increase in the growth of loans/output.

Similarly, Brandt and Li (2003) examine SOCB lending discrimination against private enterprises (PEs) and privatized township government-owned enterprises (TEs) versus non-privatized TEs. Using bank level survey data from 1994 and 1997, they focus on the lending practices of ABC branches and the RCCs. They find no significant differences between the credit quality of PEs, TEs, and privatized TEs, yet both PEs and privatized TEs were far less likely to receive bank loans than government-owned TEs. However, PEs were not able to offset their inability to secure bank financing, whereas privatized TEs were. Nonetheless, Brandt and Li (2003) describe that alternative sources of financing (e.g. trade credits) are not perfect substitutes to bank credits, thus increasing financing costs for private firms. Therefore lending discrimination keeps loans from going to the most profitable projects and hurts the most efficient (i.e., private) firms.

Throughout the 1990s, the Chinese government promoted incentives for bank managers to favor SOEs. One reason that the government would support this practice was that banks engaged in policy lending more efficiently than the government's direct allocations. In their sample of 769 SOEs in four Chinese provinces, Cull and Xu (2000) examine the net effect on SOE productivity of better risk evaluation versus increased bailout responsibilities among Chinese banks. They find that in the 1980s, banks were able to obtain better information about SOE quality and identify less risky investments, which outweighed bailout responsibilities and led to improvements in

SOE productivity. However, the causal relationship of bank lending on SOE productivity diminished in the 1990s as banks assumed more responsibility for bailing out unprofitable SOEs. Cull and Xu (2000) also showed that direct government transfers had no effects on SOE productivity. Nonetheless, they conclude by asserting that neither bank finance nor direct transfers allocate loans as efficiently as privately owned banks in a well-regulated market.

Hao (2006) finds that bank lending has had a positive, causal effect on growth in China, which stems primarily from both the use of bank lending to distribute state funds and also the mobilization of China's vast supply of household savings. He finds that loan expansion more broadly has not had a causal effect on growth. Although the practices of Chinese banks are inefficient from a commercial perspective, appropriating government funds to weak SOEs through the banks is still more efficient than the bureaucratic alternative. Using provincial evidence, Liu and Li (2001) also find that policy lending through the state-owned banks is more efficient than direct state appropriation. Nonetheless, they show that non-state funding was allocated more efficiently than state funding from 1985-1998.

Cull and Xu (2003) examined one of the original strategies pursued by the Chinese government to help improve information asymmetries between the SOCBs and the SOEs. At the beginning of the transition period, the Chinese government offered performance contracts to SOEs under the Contract Responsibility System. These contracts lasted 3 to 5 years and gave SOE managers more flexibility in production, but required that their firms meet certain performance requirements. They offered two different types of contracts. One type made manager compensation more

sensitive to firm profits (high wage elasticity), whereas the other offered large fixed transfers. Cull and Xu (2003) test whether or not a firm's engaging in a particular contract (or not at all) would act as a signal for the viability and quality of the firm on which the banks could act. They find that banks did lend more to firms that had high wage elasticities with respect to profit, so the contracts were effective signals. However, this result was more significant in the 1980s and diminished in the 1990s. They attribute this fall in effectiveness to the increased use of performance contracts by firms. Direct transfers from the government to SOEs declined throughout the 1980s in their sample of manufacturing firms in four Chinese provinces. Their empirical results indicate that banks improved credit allocation throughout the 1980s, but worsened through the 1990s as government funding of SOEs was shifted entirely to the banks and the effectiveness of the performance contracts fell.

Anecdotal evidence suggests that Chinese provinces are still highly fragmented both in terms of fiscal spending, policy directives, and operations of the state-owned banks. For example, according to the Asian Development Bank 70% of fiscal spending is controlled by local governments who still spend according to antiquated physical growth targets and not factors such as improving SOE productivity, increasing regional private investment, or other social objectives. Boyreau-Debray (2003) and Boyreau-Debray and Wei (2005) compare local investment and available local savings within a particular region to examine whether or not China exhibits evidence of capital market fragmentation. In a perfectly integrated capital market, there should be no correlation between the two, thus indicating that savings move freely across regions to places where investment is most

profitable. Boyreau-Debray and Wei (2005) examine Chinese provinces from 1952-2001. They break the sample into various periods and find that capital mobility between provinces decreased from the 1980s to the 1990s. They acknowledge that efficient capital allocation is not necessarily the same as capital mobility. A government may redirect capital to different areas, giving the appearance of high capital mobility while capital is not actually going to its most productive uses. A reverse in this trend due to market reforms may give the appearance of falling capital mobility when capital is actually being employed more efficiently. Nonetheless, Boyreau-Debray and Wei (2005) find that less productive regions receive relatively more capital inflows, which suggests that the government is redirecting capital from more productive areas to less productive areas.

Despite their large size and market share, inefficiencies prevent the Big Four from enjoying oligopolistic profits (Fu and Heffernan, 2008). Using a sample extending from 1985 to 2002, Fu and Heffernan (2008) examine the banking efficiency of the Big Four and ten joint-stock banks by looking at efficiency due to better management practices and technology (X-efficiency) versus efficiency due to scale economies (scale efficiency). They split their sample into two reform periods, 1985-1992 and 1993-2002, and find that banking efficiency in China is not associated with market concentration. They also find no signs that the Big Four improved performance in terms of either X-efficiency or scale efficiency, whereas the joint-stock banks did show improvements in X-efficiency between the two periods.

Using a production frontier analysis, Yao, et al. (2007) look at the efficiency of 22 Chinese commercial banks, including the Big Four, from 1995 to 2001. Similar

to Fu and Heffernan (2008), Yao, et al. (2007) find that efficiency of the Big Four was stagnant and low throughout the sample, and joint stock banks are 8-18% more efficient than the state banks. Their results suggest that banks with lower capitalization and a harder budget constraint are more efficient than highly capitalized banks with a soft budget constraint.

#### IV. Empirical Methodology and Data

As is done in Park and Sehn (2001), we explore the importance of economic fundamentals in the provincial allocation of bank loans, relative to that of policy goals. Specifically, we estimate the following regression equation:

$$Loan_{it} = \beta_i + \beta_t + \beta_1 Fundamental_{it} + \beta_2 Policy_{it} + \beta_3 Deposit_{it} + \beta_4 PastPolicy_{it} + \varepsilon_{it}$$

The subscripts  $i$  and  $t$  represent province and year. The dependent variable,  $Loan$ , is the ratio of loans to output.  $\beta_i$  and  $\beta_t$  are province fixed effects and year fixed effects, capturing the unobserved characteristics of provinces and aggregate shifts in economic conditions.  $\varepsilon$  is a composite *iid* error term.

*Fundamental* is a set of independent variables that captures economic fundamentals: industrial share of output,<sup>5</sup> industrial growth, agricultural growth, and the log of total output. If banks' lending policy is driven purely by economic consideration, these fundamental factors should be correlated with the allocation of bank loans in a predictable way. First and foremost, banks loans should increase in a growing province that requires an increasing amount of loans to finance investment projects, and thus bank loans should be positively correlated with the log of total

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<sup>5</sup> The term "industry" here is intended to represent non-agricultural production and includes the output of the construction sector in addition to industry.



output. In addition, as Rajan and Zingales (1998) describe, the industrial sector requires a higher ratio of financing to output, which suggests that as an area industrializes, financial intermediation should increase. On the other hand, agriculture depends largely on the availability and productivity of land and labor. Thus, industrial share of output and industrial growth should both have positive coefficients, and the coefficient on industrial growth should have a larger coefficient than that on agricultural growth. However, if the government exploits banks to achieve political objectives of preserving employment in unproductive enterprises and maintaining social stability, these fundamental factors might not have any effects on bank loans (or possibly even the opposite effects if the political incentive to preserve these enterprises is strong enough).

*Policy* is a set of independent variables that captures policy goals that the Chinese government might have wanted to achieve by altering the allocation of bank loans. It includes the ratio of grain to output, the ratio of SOE output to total output, and SOE profitability. Grain procurement has been one of the important policy goals of the Chinese government. If banks are used as instruments to carry out this policy, the coefficient on the ratio of grain to output is positive. If banks treat SOEs preferentially, in particular unprofitable SOEs, so as to avoid unemployment problems at the most inefficient and yet the most politically influential sector of the economy, then the coefficients on the ratio of SOE output to total output and SOE profitability should be positive and negative, respectively. If, on the other hand, there is no such preferential treatment, these variables will not be correlated with bank loans.

*Deposit* is a set of independent variables that capture possible fragmentation of the banking market in China: the ratio of bank deposits to output and the ratio of total deposits to output. The ratio of bank deposits to output proxies for a bank's dependence on its own collection of household deposits for lending. Similarly, the inclusion of the ratio of total deposits to output assumes that there may be intra-provincial transfers of funds and measures the effect of inter-provincial transfer bounds on lending. Park and Sehart (2001) interpret a negative coefficient on total deposits as an indication of crowding-out. They claim that if an increase in total deposits is associated with a decrease in a bank's lending, then the bank is losing market share to competition.

*Past Policy* a set of past policy variables control for poor past policies that affect the size of bank loans. They should capture the lingering effects of inefficient past performance, like the accumulation of high NPL stocks, so that the effects of improvement in NPL flow will be captured in the other variables.<sup>6</sup> Favorable economic conditions should lower NPLs, but in this specification, a consequent improvement in lending would be captured by policy variables, which would lead us to underestimate improved lending according to fundamentals (Park and Sehart, 2001).

The data used in this paper comes from official published sources of the Chinese government. All data used in regressions are annual and provincial. Most of the non-bank data is found in annual publications of the *China Statistical Yearbook*, except for GDP, which comes from the *China Data Online* Internet database. Bank

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<sup>6</sup> Provinces naturally differ in initial NPL stocks, but by using a fixed effects model we account for these differences. The additional flow of NPLs in each subsequent period corresponds to some fraction of total policy lending in each year, for which we have included the summation terms as proxies. Therefore these summation terms should be sufficient in accounting for NPL flows in previous periods.

data comes from annual publications of the Chinese version of the *Almanac of China's Banking and Finance*.<sup>7</sup> This paper examines the Big Five, RCCs, and the ADBC from 1996 to 2005. These are the only banks that report provincial data for a sufficient number of years in available sources. The estimations exclude Beijing, Shanghai, Tianjin, Yunnan, and Inner Mongolia, because the former three are extreme outliers at the high growth end and the latter two at the lower end. Tibet is excluded because of missing observations.<sup>8</sup> Tables A2 and A3 show summary statistics.

## V. Results

An initial survey of correlations between variables reported in Tables 2(i) and 2(ii) show that total loans are more negatively correlated with the log of GDP per capita in the more recent reform period. Total loans are also more positively correlated with the policy variables GRAIN and SOEY and negatively with SOEP in 2001 and after. These simple correlations seem to suggest a worsening of financial intermediation from the first to the second period as lending moves positively with policy variables and negatively with economic fundamentals.

We run simple, bivariate, year-by-year cross-sectional OLS regressions across provinces of the log of loans/GDP on the log of per capita GDP.<sup>9</sup> The elasticities in Table 3 indicate that these two variables are negatively correlated during the 1990s, confirming the results of Park and Sehart (2001). Moreover, this negative relation is persistent even after 2001, although the magnitude is decreasing somewhat over

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<sup>7</sup> The English version contains no provincial level data.

<sup>8</sup> See Table A1 for a detailed description of missing data and interpolations.

<sup>9</sup> The standard errors are adjusted for heteroskedasticity (i.e., *robust* option in Stata).

time.<sup>10</sup> Although ADBC does not have statistically significant results alone, all its coefficients are negative, and when combined with ABC, the elasticities demonstrate an even more strongly negative relationship between lending and growth. These two banks lend primarily in rural areas, which tend to have far lower growth than the urban centers. Among the Big Four, BOC alone demonstrates increased lending alongside higher growth, which seems to increase across the sample. BoComm shows positive, but statistically insignificant coefficients.<sup>11</sup> The RCCs give inconclusive results. In sum, none of these elasticities are positive *and* statistically significant throughout the last decade. These results are also clear in Figure 3, which illustrates the negative relationship between the log of loans/GDP and GDP per capita among Chinese provinces. These elasticities indicate that non-economic factors were distorting the allocation of bank loans even during the recent period and that, as part of their policy lending strategy, the government is collecting deposits from high growth areas in order to disburse them in the low growth, rural areas.

In the next step, we estimate annual OLS regressions with all independent variables, which make use of cross-provincial variation in the data. The results are reported in Tables 4-11. First, the most prominent result across these estimations is the dependence of financial intermediation on own deposits, suggesting the continuing geographical fragmentation of the financial market. Second, ABC/ADBC (Table 4, columns 17-20), state banks as a group (Table 5, cols. 15-16), ABC

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<sup>10</sup> In 1998, a 1% increase in per capita GDP leads to a 0.45% fall in loans/GDP. In 2004, a 1% fall in per capita GDP leads only to a 0.19% fall in loans/GDP

<sup>11</sup> However, BoComm shows a much stronger and statistically significant relationship between lending and growth when the high-growth municipalities, Beijing, Shanghai, and Tianjin, are included. This result is not unexpected since BoComm focuses its lending in high growth areas, which tends to have a positive, causal effect on bank performance. See table A2(iii) in the appendix.

individually (Table 6, cols. 9-16, 19-20), and ICBC (Table 8, cols. 15-16, 18) all have significant and negative coefficients on total deposits in the post-WTO accession period. At first glance, we might suppose that if the increase of total deposits in a province lowers a bank's lending share, then the additional deposits entering the market are being absorbed by competitors, and thus negative coefficients on total deposits indicates crowding out. However, as we discuss below, this pattern vanishes in the fixed effects regressions, which suggests that this result may actually simply be due to omitted variable bias.

Third, the coefficients on fundamentals are not significant overall. When significant, the sign is often negative and thus opposite of what we expect to accompany effective intermediation. When the coefficient is positive and significant, it is usually very small in magnitude or switching in signs from year to year. For state banks, the coefficient on output is never significant, and that of industrial share of output is also insignificant except 2002 and 2003 when they are only marginally significant (Table 5). For ADBC/ABC (Table 4), even though the coefficients on output are positive and significant during the sample period, the size of these coefficients declined over time, suggesting that economic fundamentals played a declining role in the allocation of loans in spite of banking reform. Moreover, the coefficient on the industrial share of output is consistently negative. This also implies that the distortion of bank lending policy remains serious.

For BOC (Table 7) in the more recent period regression with interaction terms (cols. 12-18), industrial growth shows a positive relationship with lending. However, its interaction term with industrial share of output is negative and greater in

magnitude, suggesting that in provinces with higher industrial output the relationship between industrial growth and lending is actually negative. The opposite is the case for ICBC (Table 8, cols. 12-18). In nearly every year, RCC lending (Table 11) responds negatively to the log of output.

Fourth, the coefficients on grain output and SOE output are consistently positive and statistically significant for ABC/ADBC (Table 4), which are strong signs of the banks consistently lending according to policy goals. The results on grain output vanish when ABC is examined independently (Table 6), which is not surprising since ADBC is a policy bank, so managers at the bank likely have the explicit goal of maximizing grain production. However, the coefficients on SOE output in ABC's estimations from 1999-2004 are significant and positive in general (Table 6). Moreover, the SOE profit\*output interaction term is negative (Table 6, cols. 10 and 14), which means that the larger market share of profitable SOEs has a negative impact on lending (or, that the statistical link between bank loans and SOE output is larger when SOEs are less profitable). These results are consistent with reports that describe ABC as the most inefficient and troubled bank of the Big Four (Podpiera, 2006).

For the state banks both as a group (Table 5) and individually (Tables 7-10), the evidence is a little mixed. The coefficient of SOE profitability is negative and generally significant in the estimations without interaction terms. When the interaction terms are included, either the coefficient of SOE profitability remains negative or SOE profitability\*output becomes negative. This trend seems to suggest a general pattern of inefficient lending since state banks are not lending to profitable

SOEs and instead are propping up failing ones. Further evidence is provided among state banks (Table 5) by the positive and sometimes significant coefficient of SOE output (except in cols. 16 and 18, which are the estimations including interaction terms for 2003 and 2004).

A major shortcoming of the OLS regressions is that they fail to control for unobservable factors that differ between provinces. Table 12 reports the p-values of the Hausman-Taylor tests between the random effects and fixed effects panel estimations. Since the difference in coefficients appears to be systematic in at least one regression for each bank group, except for state banks, BOC and the RCCs, we act conservatively and focus on fixed effects estimations.

The sample period is separated by pre- and post-WTO entrance to see if a change in lending performance takes place as reforms are enacted for WTO compliance. Tables 13-20 show the results of fixed effects estimations with and without interaction terms. There is no overwhelming evidence to indicate that the state-owned banks (Table 14) improved performance as a whole. For example, the coefficients on fundamentals remain weak even after 2001. Only the results on BoComm (Table 19) show that the coefficient on output becomes positive and statistically significant after 2001. ICBC (Table 19) has a positive coefficient of industrial growth. However, in the same period ICBC has negative and significant coefficients on industrial share of output and the industrial interaction term, suggesting that they are not lending to industrial firms that are contributing the most to growth in the sector.

There is also no clear evidence that policy-related lending became unimportant. For state banks (Table 15), the coefficient on SOE profitability remains negative. The coefficients on grain and SOE profitability remain persistently positive and negative, respectively, for ABC (Table 15). ICBC (Table 17) shows statistically significant results that lending responded positively to SOE output and negatively to SOE profitability in the more recent period. Similar to the OLS regressions, when the interaction term is included (col. 4), the coefficient on profitability becomes positive, but the interaction term with output becomes negative.

In their study, Park and Sehrt (2001) also separate their sample into two periods: 1991-1994 and 1995-1997. Their data indicates an overall fall in lending performance from the first to the second period. The results of this paper are more ambiguous between the two periods. Among the six banks there are four negative, significant coefficients of economic fundamentals in the first period, and five in the second. However, there is only one positive and significant coefficient in the first period, and four in the second. The positive coefficients are all of total output except for the one of ICBC just mentioned, which is of industrial growth and accompanied by significant and negative coefficients of industrial share and the industrial interaction term. BOC (Table 16) and ICBC (Table 17) have coefficients of output per capita that switch from positive to very negative in regressions (2) and (4). The same is true for RCCs (Table 20) in regression (1) and (2) to (3) and (4). However, none of these are significantly different from zero above a 10% level of confidence. Therefore, although the banks in the sample showed no signs of reducing policy



lending, there is no substantial evidence that indicates an overall worsening of lending practices.

ABC, ICBC, CCB, BoComm, and the RCCs (Tables 15, 17-20) all have highly significant and positive coefficients of own-deposits, which seem to tell a consistent story of poor interbank lending. For ABC, ICBC, and RCCs, the size of the coefficient is decreasing, which may suggest a slight improvement in interbank lending. However the coefficient size is still over 0.5 for all of them, indicating that banks depend on household deposits of bank branches within the province for about half of their loanable funds. Unexpectedly, only ADBC/ABC and ABC (Tables 13 and 15) show signs of crowding out, and the result disappears for ABC during the transition period. Only these two banks have significant negative coefficients on total deposits. In fact, for the other six bank groups, only for ICBC (Table 17) in regression (4) is the coefficient on total deposits negative. CCB (Table 18) has highly positive coefficients of total deposits in the pre-transition period, which may indicate that the bank was benefiting from areas where the market for household deposits was expanding rapidly. These results are contrary to the results of the preceding OLS regressions. This contradiction can likely be explained by omitted variable bias. There could be a number of time invariant factors that affect lending, and the influence of these factors is being detected through total deposits. The fixed effects specification examines the differences in differences between provinces from period to period, thus compensating for time invariant characteristics of provinces. Nonetheless, given the falling share of state banks in the loans and deposits markets and the growing presence of more efficient private and joint-stock banks, one might

still expect signs of crowding out. A possible explanation lies in the loans to deposits ratio, which has fallen steadily since 1994. As is illustrated in Figure 4, the growth of deposits continues to outpace the growth of lending. The growing supply of household deposits may be increasing the capacity of the market at such a rate that crowding out is not occurring despite increased entry by foreign and smaller domestic banks and the falling market share of the Big Five.

In summary, the opening of the Chinese banking sector during WTO transition has not led to reduced policy lending. In our sample of roughly 25 Chinese provinces from 1996 to 2005, financial intermediation of SOCBs still responds more strongly to policy variables rather than economic fundamentals. Our strongest result is the indication that the Chinese banking sector remains very segmented as SOCBs are highly dependent on their own household deposits as a source for loanable funds.

## **VI. Conclusion**

The Chinese banking sector continues to be a source of ailment for the broader Chinese economy. After years of policy lending has left the large SOCBs burdened with large stocks of NPLs, poor management practices, and stubborn ties to inefficient SOEs, WTO accession presents Chinese authorities with a mandate to improve the financial conditions of domestic banks. This paper assembles new and recent data on the provincial allocation of bank loans and the characteristics of each province to explore whether policy-related lending has declined during the recent period during which the Chinese government is supposed to have made concerted efforts to make its banking sector more commercially viable.

This paper shows that despite increased openness of the Chinese banking sector from 2001-2005 and various measures undertaken to make it more commercially viable, the major Chinese SOCBs did not significantly alter their behavior in terms of policy lending. They continued to lend according to policy variables like grain production and SOE output, rather than economic fundamentals like agricultural growth, industrial growth, and output per capita. The results also showed that the abundant supply of Chinese household deposits is not allowed to flow to the most productive regions as restrictions or inefficiencies in the interbank market remain. Fortunately for the Big Five, deposits continue to grow faster than lending, which prevents the crowding out of inefficient banks from taking place.

In order to solve the NPL problem, the state must relinquish its overarching role in the banking sector. Allen, et al. (2005) highlight two primary concerns regarding the function of privatization in banking. First, the Big Five must be exposed to more competition by both smaller domestic firms and internationalized foreign firms. As the example of Hungary illustrates, increased competition from foreign banks can improve the performance of domestic banks even as the monolithic state-owned banks resist foreign acquisition. Second, the state faces a conflict of interests as both the banking sector regulator and the majority owner. Nonetheless, there are reasons to believe that the NPL problem is manageable, most notably because of China's very low government debt.<sup>12</sup> However, this perspective considers primarily the stock of NPLs. Without appropriate reform to curb NPL flows, the situation will only worsen and become increasingly difficult to remedy.

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<sup>12</sup> In fact, China's ratio of NPLs to government debt is comparable to that of the U.S., which has a low level of NPLs, but very high government debt (much of which happens to be owned by China).

The future policies of Chinese authorities should focus on breaking the ties between SOCBs and inefficient SOEs. By tying up loanable funds in propping up SOEs that will ultimately fail, the government is restricting the growth of more efficient private firms that can step in and absorb workers laid off by SOEs as they close when banks withhold their loans. As the performance of the Big Five, which potentially have major advantages of scale over other smaller banks, is subsequently improved, they will be ready to compete with foreign banks entering the market.

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**Table 1**  
**WTO Transition Period Reform Timeline**

<b>Activities subject to restriction indefinitely</b>	<ul style="list-style-type: none"> <li>• Acceptance of deposits and other repayable funds from the public</li> <li>• Lending of all types including consumer credit, mortgages, factoring, financing of commercial transactions</li> <li>• Financial leasing</li> <li>• All payment and money transmission services including credit, charge and debit cards, and travelers checks</li> <li>• Guarantees and commitments</li> </ul>					
<b>Activities allowed immediately without any restrictions upon accession</b>	<ul style="list-style-type: none"> <li>• Auto financing by non-bank financial institutions</li> <li>• Provision and transfer of financial information/software</li> <li>• Advisory, intermediary services including credit reference and analysis, investment mergers and acquisitions, and portfolio research</li> </ul>					
<b>Year</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006 and after</b>
<b>Geographic Coverage</b>	Shanghai Shenzhen Tianjin Dalian	Guangzhou Qingdao Nanjing Wuhan	Jinan Fuzhou Chengdu Chongqing	Kunming Zhuhai Beijing Xiamen	Shantou Ningbo Shenyang Xian	No restrictions
<b>Client Coverage</b>	Foreign currency business immediately unlimited	Local currency business to Chinese enterprises only				No restrictions
<b>Company Licensing</b>	<ul style="list-style-type: none"> <li>• Total assets more than US\$10 million to establish subsidiary or joint venture</li> <li>• Total assets more than US\$20 billion to establish a branch</li> <li>• Further licensing requirements to engage in local currency business are 3 years business operations in China, and being profit making for 2 consecutive years prior to applications</li> </ul>					No restrictions

Source: Found in and adapted from Bonin and Huang (2002). Originally compiled by Citigroup Asia Pacific Economic and Market Analysis team, Hong Kong.

Table 2(i)--Correlation Matrix (pre-2001)

	Total loans	Total bank deposits	Ind. growth	Ind. output	Ind. share	Ag. growth	Ag. output	Log output/ capita	Grain	SOE output	SOE profit- ability	Total deposits
Total loans	1.00											
Total bank deposits	0.85	1.00										
Ind. growth	0.40	0.35	1.00									
Ind. output	0.13	0.18	--	1.00								
Ind. share	-0.47	-0.35	--	--	1.00							
Ag. growth	0.24	0.20	0.44	--	--	1.00						
Ag. output	-0.27	-0.27		0.73	0.17	--	1.00					
Log output/capita	0.44	0.55	0.11	0.58	--	0.25	0.14	1.00				
Grain	-0.49	-0.57	--	-0.47	0.16	-0.26	--	-0.85	1.00			
SOE output	--	--	-0.16	-0.27	0.37	-0.16	-0.41	--	0.21	1.00		
SOE profitability	-0.18	--	-0.16	0.19	0.16	--	0.11	0.23	-0.14	--	1.00	
Total deposits	0.53	0.71	0.19	--	0.27	0.27	-0.28	0.30	-0.29	0.34	--	1.00

Notes: Reported are the correlation coefficients significant at the 10% level. *Total bank deposits* is the sum of deposits of ABC, BOC, ICBC, CCB, BoComm, and the RCCs, whereas *Total deposits* is the total deposits of all banks and financial institutions.

Table 2(ii)--Correlation Matrix (2001 &amp; after)

	Total loans	Total bank deposits	Ind. growth	Ind. output	Ind. share	Ag. growth	Ag. output	Log output/ capita	Grain	SOE output	SOE profit- ability	Total deposits
Total loans	1.00											
Total bank deposits	0.87	1.00										
Ind. growth	0.27	0.17	1.00									
Ind. output	-0.37	-0.30	-0.24	1.00								
Ind. share	-0.16	--	-0.24	0.53	1.00							
Ag. growth	--	--	0.48	--	--	1.00						
Ag. output	-0.40	-0.39	-0.29	0.64	0.14	-0.14	1.00					
Log output/capita	-0.35	-0.18	-0.25	0.58	0.68	--	0.12	1.00				
Grain	0.30	--	0.29	-0.49	-0.57	--	--	-0.80	1.00			
SOE output	0.13	--	--	-0.24	0.39	--	-0.34	--	--	1.00		
SOE profitability	-0.23	-0.14	-0.17	0.20	0.18	-0.19	--	0.31	-0.14	0.19	1.00	
Total deposits	0.31	0.41	--	--	0.38	--	-0.21	--	--	0.48	--	1.00

Notes: Reported are the correlation coefficients significant at the 10% level. *Total bank deposits* is the sum of deposits of ABC, BOC, ICBC, CCB, BoComm, and the RCCs, whereas *Total deposits* is the total deposits of all banks and financial institutions.

Table 3: Elasticity of Financial Intermediation and Per Capita GDP Growth, Chinese Provinces, 1996-2005										
Year	All	State banks	ADBC/ABC	ADBC	ABC	CCB	BOC	ICBC	BoComm	RCCs
1996	<b>-0.350***</b>	<b>-0.123**</b>	<b>-0.082**</b>	-0.042	<b>-0.040**</b>	<b>-0.071**</b>	<b>0.016*</b>	<b>-0.122***</b>	0.005	0.016
1997	<b>-0.384***</b>	<b>-0.120**</b>	<b>-0.087***</b>	-0.035	<b>-0.050***</b>	<b>-0.075**</b>	<b>0.022*</b>	<b>-0.138***</b>	0.005	-0.030
1998	<b>-0.454***</b>	<b>-0.127**</b>	<b>-0.135***</b>	-0.026	<b>-0.109***</b>	<b>-0.087***</b>	0.023	<b>-0.142***</b>	0.005	-0.033
1999	<b>-0.359***</b>	<b>-0.145***</b>	<b>-0.139***</b>	-0.025	<b>-0.113***</b>	<b>-0.057**</b>	0.019	<b>-0.108**</b>	0.004	-0.039
2000	<b>-0.333***</b>	-0.096	<b>-0.135***</b>	-0.025	<b>-0.110***</b>	<b>-0.057***</b>	0.018	<b>-0.096***</b>	0.004	0.007
2001	<b>-0.254***</b>	<b>-0.093*</b>	<b>-0.112***</b>	-0.022	<b>-0.091***</b>	<b>-0.041**</b>	<b>0.023**</b>	<b>-0.067**</b>	0.003	0.005
2002	<b>-0.226**</b>	-0.057	<b>-0.107***</b>	-0.023	<b>-0.084***</b>	<b>-0.043**</b>	<b>0.029***</b>	<b>-0.063***</b>	0.007	0.000
2003	<b>-0.186**</b>	-0.050	<b>-0.099***</b>	-0.021	<b>-0.078***</b>	<b>-0.042**</b>	<b>0.034***</b>	<b>-0.054**</b>	0.006	0.002
2004	<b>-0.187*</b>	-0.037	<b>-0.092***</b>	-0.016	<b>-0.076***</b>	-0.015	0.009	<b>-0.059**</b>	0.003	-0.001
2005	--	--	<b>-0.098***</b>	-0.018	<b>-0.080***</b>	<b>-0.045**</b>	--	--	--	<b>-0.036***</b>
Notes: Cross sectional OLS regression across provinces with robust standard errors of the log of loans/GDP on the log of per capita GDP. Reported are the coefficients of the log of per capita GDP, where *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. State banks include the CCB, BOC, ICBC, and BoComm. Excluded are Beijing, Tianjin, Shanghai, Tibet, Yunnan, and Inner Mongolia.										

Table 4: Annual OLS Regressions of Financial Intermediation—ADBC/ABC

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-5.73 (4.64)***	-8.57 (3.05)**	-5.82 (3.05)***	-25.80 (5.16)***	-8.08 (5.10)***	-6.45 (4.35)***	-7.07 (4.54)***	-6.69 (2.63)**	-5.30 (3.48)***	-5.08 (1.41)
Ind. growth	-2.19 (2.45)**	5.39 (0.54)	-2.41 (0.77)	146.16 (4.98)***	-2.67 (1.18)	-0.65 (0.04)	-0.56 (0.67)	-3.20 (0.52)	0.81 (0.38)	13.31 (0.88)
Ind. growth*Ind. share		-10.07 (0.73)		-182.51 (5.06)***		-1.58 (0.07)		2.76 (0.31)		-18.93 (0.85)
Ag. growth	1.77 (0.85)	-2.48 (0.29)	2.35 (0.88)	21.01 (4.50)***	1.69 (0.65)	11.52 (2.20)**	-0.85 (0.43)	10.32 (1.68)	2.12 (0.54)	12.46 (1.36)
Ag. growth*Ag. share		16.55 (0.54)		-109.36 (4.87)***		-57.63 (3.57)***		-32.44 (2.08)*		-37.54 (1.31)
Ln of output/ capita	19.59 (4.98)***	19.43 (4.79)***	21.81 (3.09)***	19.01 (5.49)***	13.80 (2.70)**	5.83 (1.09)	10.83 (2.26)**	10.97 (2.03)*	18.37 (2.39)**	11.21 (1.63)
	<i>Policy Variables</i>									
Grain	1.99 (4.54)***	2.14 (5.09)***	2.56 (3.24)***	2.57 (4.39)***	2.20 (3.69)***	1.41 (2.17)*	1.34 (2.34)**	1.86 (2.59)**	2.19 (2.50)**	2.59 (3.05)**
SOE gross output value	2.71 (4.35)***	2.25 (2.15)*	2.71 (3.94)***	2.78 (4.65)***	2.69 (2.33)**	2.40 (2.41)**	6.35 (4.93)***	5.53 (3.71)***	5.21 (3.96)***	4.99 (3.61)***
SOE profitability	-16.92 (2.56)**	-5.47 (0.38)	-17.80 (1.54)	6.26 (0.54)	-8.95 (0.67)	-59.84 (1.30)	11.97 (2.00)*	20.12 (0.43)	0.42 (0.11)	19.39 (0.56)
SOE profit*output		-2.67 (1.08)		-4.43 (1.91)*		11.99 (1.22)		-2.94 (0.34)		-3.38 (0.68)
	<i>Deposits</i>									
ABC Deposits	0.95 (2.52)**	0.83 (1.94)*	0.36 (0.75)	0.14 (0.44)	0.05 (0.11)	-0.05 (0.14)	0.60 (1.13)	0.15 (0.24)	1.20 (3.48)***	0.66 (1.29)
Total deposits	-0.47 (0.62)	-0.25 (0.30)	0.30 (0.35)	-0.08 (0.17)	0.48 (0.52)	0.21 (0.28)	-0.14 (0.16)	-0.14 (0.15)	-1.20 (1.39)	-0.73 (0.81)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.93	0.94	0.89	0.97	0.88	0.93	0.91	0.94	0.90	0.93

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	2001		2002		2003		2004		2005	
	<i>Economic Fundamentals</i>									
Ind. share of output	-5.53 (4.99)***	-4.40 (0.80)	-3.20 (3.99)***	-2.59 (0.67)	-1.35 (2.03)*	1.14 (0.17)	-1.69 (4.68)***	-0.67 (0.18)	-1.42 (2.85)**	-7.86 (2.13)*
Ind. growth	-4.57 (1.06)	-4.74 (0.14)	-1.94 (1.48)	-1.84 (0.11)	0.74 (0.51)	-10.12 (0.48)	0.18 (0.35)	0.82 (0.09)	1.76 (1.86)*	16.09 (1.56)
Ind. growth*Ind. share		-0.55 (0.01)		0.90 (0.04)		14.27 (0.55)		-0.84 (0.08)		-19.16 (1.44)
Ag. growth	0.20 (0.07)	6.56 (0.59)	2.71 (1.36)	2.74 (0.38)	0.59 (0.60)	-3.86 (1.04)	0.92 (1.27)	3.00 (1.04)	-0.43 (0.38)	-5.16 (1.90)*
Ag. growth*Ag. share		-31.76 (0.61)		-6.87 (0.19)		16.01 (1.19)		-8.31 (0.67)		24.25 (1.54)
Ln of output/ capita	13.29 (2.13)*	13.53 (1.89)*	11.48 (3.01)***	9.43 (2.03)*	7.17 (2.54)**	9.00 (4.04)***	5.49 (4.01)***	7.42 (3.40)***	3.86 (1.82)*	5.82 (1.55)
	<i>Policy Variables</i>									
Grain	1.77 (1.65)	1.68 (1.49)	2.28 (3.21)***	2.48 (2.94)**	1.83 (2.59)**	1.93 (2.97)**	1.80 (4.39)***	1.78 (5.09)***	1.66 (4.52)***	2.05 (4.29)***
SOE gross output value	5.22 (4.59)***	5.32 (2.97)**	3.81 (4.27)***	5.48 (4.20)***	3.00 (3.94)***	2.39 (2.09)*	2.13 (4.41)***	1.33 (1.07)	1.63 (4.52)***	0.25 (0.26)
SOE profitability	10.44 (1.67)	5.97 (0.16)	6.46 (2.55)**	48.63 (1.72)	2.10 (1.02)	-1.93 (0.09)	-0.50 (0.98)	-17.42 (0.83)	-0.54 (0.85)	-25.87 (1.70)
SOE profit*output		0.88 (0.14)		-7.74 (1.52)		0.67 (0.19)		2.61 (0.80)		3.67 (1.67)
	<i>Deposits</i>									
ABC Deposits	1.13 (3.81)***	1.17 (2.63)**	1.09 (4.53)***	0.96 (2.19)**	0.92 (4.77)***	1.03 (3.56)***	0.69 (5.50)***	0.77 (3.61)***	0.63 (4.19)***	0.72 (3.06)***
Total deposits	-1.29 (1.47)	-1.73 (1.28)	-0.46 (0.43)	-0.42 (0.34)	-1.34 (1.50)	-1.55 (1.55)	-1.29 (2.26)**	-1.46 (2.74)**	-1.53 (3.27)***	-1.85 (3.88)***
Observations	25	25	25	25	25	25	25	25	25	25
R-squared	0.90	0.90	0.89	0.91	0.88	0.90	0.93	0.93	0.92	0.94

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 5: Annual OLS Regressions of Financial Intermediation—State Banks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-0.88 (0.31)	-1.78 (0.30)	-2.11 (0.71)	-1.75 (0.13)	-0.66 (0.28)	1.81 (0.71)	0.52 (0.17)	8.60 (1.71)	1.28 (1.03)	-1.46 (0.34)
Ind. growth	-1.58 (1.29)	-31.88 (1.17)	-4.94 (1.26)	-42.08 (0.40)	-4.03 (1.52)	-46.77 (1.60)	-0.10 (0.06)	19.80 (2.11)*	2.41 (0.76)	15.28 (1.08)
Ind. growth*Ind. share		40.59 (1.11)		46.63 (0.36)		58.96 (1.47)		-28.95 (2.21)**		-17.33 (0.92)
Ag. growth	-0.12 (0.03)	-6.87 (0.55)	5.26 (1.54)	-23.17 (0.89)	2.00 (0.94)	5.11 (0.68)	-4.51 (0.89)	20.38 (2.56)**	3.40 (1.12)	0.65 (0.06)
Ag. growth*Ag. share		33.04 (0.69)		122.70 (0.97)		2.20 (0.07)		-63.20 (2.87)**		8.26 (0.21)
Ln of output/ capita	2.93 (0.54)	3.26 (0.60)	4.12 (0.67)	6.03 (1.11)	5.48 (0.80)	11.49 (1.53)	-1.05 (0.08)	7.13 (0.82)	4.29 (0.37)	4.39 (0.28)
	<i>Policy Variables</i>									
Grain	-0.19 (0.22)	0.15 (0.17)	0.13 (0.10)	-0.04 (0.03)	0.48 (0.56)	1.01 (0.80)	-0.10 (0.08)	0.56 (0.52)	0.41 (0.27)	0.58 (0.36)
SOE gross output value	2.92 (1.35)	2.35 (0.87)	1.84 (0.82)	2.27 (1.13)	2.15 (1.23)	2.27 (1.09)	5.11 (2.01)*	6.77 (2.53)**	2.81 (2.17)**	3.61 (2.23)**
SOE profitability	-35.82 (2.23)**	15.29 (0.49)	-36.39 (2.93)**	-18.47 (0.94)	-38.60 (3.12)***	30.74 (0.41)	-10.08 (0.63)	82.11 (2.01)*	-10.05 (2.56)**	4.76 (0.15)
SOE profit*output		-9.09 (1.51)		-3.48 (0.83)		-15.38 (1.02)		-19.21 (2.96)**		-2.30 (0.49)
	<i>Deposits</i>									
State Bank Deposits	0.83 (5.42)***	0.84 (5.32)***	0.80 (4.39)***	0.87 (4.57)***	0.80 (5.91)***	0.84 (6.99)***	0.64 (2.42)**	0.52 (1.99)*	0.62 (4.52)***	0.61 (3.00)**
Total deposits	-0.93 (0.73)	-0.37 (0.37)	-0.65 (0.29)	-0.66 (0.34)	-0.62 (0.44)	-0.72 (0.46)	-0.65 (0.38)	-0.67 (0.39)	-0.60 (0.41)	-0.64 (0.38)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.87	0.90	0.88	0.91	0.90	0.91	0.89	0.93	0.90	0.91

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	2001		2002		2003		2004	
	<i>Economic Fundamentals</i>							
Ind. share of output	1.41 (1.08)	4.96 (0.93)	2.14 (1.92)*	4.86 (1.19)	2.70 (2.07)*	19.79 (2.73)**	3.89 (1.38)	-1.13 (0.09)
Ind. growth	-3.74 (0.64)	-25.02 (1.17)	-0.64 (0.28)	-33.20 (1.43)	-3.48 (1.43)	-61.49 (2.36)**	0.48 (0.17)	28.20 (0.69)
Ind. growth*Ind. share		24.43 (0.97)		41.60 (1.40)		70.89 (2.28)**		-34.69 (0.66)
Ag. growth	-6.03 (1.13)	-4.13 (0.30)	-1.39 (0.29)	-14.69 (1.38)	-1.56 (1.23)	-3.11 (0.66)	10.58 (3.35)***	16.63 (1.23)
Ag. growth*Ag. share		-11.72 (0.16)		61.09 (1.35)		2.67 (0.17)		-30.52 (0.53)
Ln of output/ capita	0.06 (0.01)	2.17 (0.28)	3.36 (0.74)	6.68 (0.98)	-0.11 (0.02)	2.99 (0.57)	-8.70 (0.81)	-7.85 (0.68)
	<i>Policy Variables</i>							
Grain	-0.08 (0.06)	-0.40 (0.35)	0.99 (1.24)	1.25 (1.42)	1.30 (1.17)	1.29 (1.09)	1.37 (0.44)	1.75 (0.47)
SOE gross output value	2.33 (2.02)*	0.80 (0.30)	1.26 (1.43)	1.87 (0.82)	0.97 (1.00)	-0.83 (0.54)	0.95 (0.52)	-0.72 (0.16)
SOE profitability	-8.57 (1.22)	-55.41 (0.82)	-10.71 (1.76)*	16.30 (0.31)	-1.82 (0.42)	-21.98 (0.82)	-7.94 (0.69)	-38.41 (0.50)
SOE profit*output		8.03 (0.77)		-4.81 (0.50)		3.77 (0.79)		4.65 (0.39)
	<i>Deposits</i>							
State Bank Deposits	0.67 (5.45)***	0.76 (4.17)***	0.73 (6.81)***	0.84 (5.16)***	0.81 (6.13)***	0.98 (6.97)***	-0.04 (0.36)	0.00 (0.01)
Total deposits	-1.39 (1.15)	-2.27 (0.97)	-2.18 (1.19)	-2.96 (1.40)	-2.90 (2.36)**	-3.88 (3.32)***	0.83 (0.39)	0.38 (0.16)
Observations	25	25	25	25	25	25	25	25
R-squared	0.86	0.87	0.88	0.90	0.87	0.91	0.42	0.43

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. State banks include CCB, BOC, ICBC, and BoComm. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 6: Annual OLS Regressions of Financial Intermediation—ABC

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-2.34 (2.62)**	0.09 (0.04)	-2.35 (2.61)**	-6.79 (1.45)	-3.61 (2.27)**	-1.77 (1.32)	-2.15 (1.66)	-0.58 (0.30)	-1.77 (1.61)	-2.49 (2.18)**
Ind. growth	-1.18 (2.02)*	-10.80 (1.22)	-2.39 (1.75)	25.67 (0.78)	-3.32 (2.06)*	-34.70 (2.29)**	-0.47 (0.75)	1.05 (0.20)	0.93 (0.41)	16.10 (3.08)**
Ind. growth*Ind. share		12.55 (1.05)		-34.35 (0.87)		43.22 (2.06)*		-2.78 (0.38)		-22.15 (2.92)**
Ag. growth	1.08 (0.93)	4.49 (0.86)	2.11 (1.61)	1.69 (0.34)	1.77 (1.18)	4.26 (1.05)	-4.91 (2.49)**	4.50 (1.06)	-1.38 (0.56)	8.85 (2.11)*
Ag. growth*Ag. share		-13.71 (0.68)		-4.82 (0.18)		-3.21 (0.15)		-26.65 (2.76)**		-36.91 (3.15)**
Ln of output/ capita	3.16 (1.44)	3.49 (1.75)	2.93 (0.68)	2.13 (0.44)	-0.03 (0.01)	2.50 (0.49)	-7.55 (2.10)*	-6.34 (1.55)	2.40 (0.37)	-4.58 (0.63)
	<i>Policy Variables</i>									
Grain	0.44 (2.20)**	0.37 (1.79)	0.59 (1.51)	0.49 (1.06)	0.30 (0.75)	0.44 (0.72)	-0.59 (2.24)**	-0.20 (0.73)	-0.08 (0.10)	0.50 (0.73)
SOE gross output value	0.25 (0.58)	0.64 (1.08)	0.15 (0.33)	0.28 (0.57)	1.03 (1.17)	1.19 (1.20)	3.15 (4.33)**	2.79 (4.09)**	2.36 (2.70)**	3.02 (2.93)**
SOE profitability	-7.34 (1.81)*	3.00 (0.26)	-7.14 (1.10)	-2.75 (0.27)	-4.49 (0.61)	31.33 (0.91)	14.05 (2.79)**	26.36 (1.35)	0.34 (0.15)	45.08 (2.18)**
SOE profit*output		-1.29 (0.80)		-0.67 (0.46)		-7.78 (1.09)		-3.41 (0.94)		-7.23 (2.32)**
	<i>Deposits</i>									
ABC Deposits	0.53 (2.17)**	0.74 (2.63)**	0.52 (2.41)**	0.51 (2.17)*	1.09 (3.53)**	1.09 (3.32)**	1.13 (3.63)**	0.85 (2.70)**	1.76 (5.24)**	1.15 (3.75)**
Total deposits	0.51 (1.06)	0.38 (0.75)	0.39 (0.81)	0.26 (0.43)	-0.33 (0.55)	-0.39 (0.57)	-0.80 (1.42)	-2.50 (1.46)	-1.94 (2.84)**	-1.94 (3.06)**
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.83	0.87	0.81	0.83	0.84	0.88	0.90	0.93	0.86	0.93

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	2001		2002		2003		2004		2005	
	<i>Economic Fundamentals</i>									
Ind. share of output	-3.32 (4.11)**	-2.42 (1.07)	-0.58 (0.57)	3.76 (1.45)	-0.24 (0.37)	8.88 (1.53)	0.36 (0.42)	-1.92 (0.51)	1.19 (1.24)	-8.00 (1.76)
Ind. growth	-7.08 (2.35)**	-19.13 (1.53)	1.61 (1.01)	-12.38 (1.16)	-1.03 (0.65)	-33.03 (1.68)	0.08 (0.10)	7.39 (0.60)	2.21 (1.82)*	34.43 (2.47)**
Ind. growth*Ind. share		17.06 (1.13)		19.56 (1.43)		39.80 (1.71)		-9.16 (0.58)		-40.99 (2.27)**
Ag. growth	-4.93 (2.24)**	-8.71 (1.09)	-1.96 (0.84)	-2.50 (0.49)	0.32 (0.34)	-2.16 (0.76)	1.06 (0.94)	1.78 (0.47)	-2.76 (1.81)*	-6.53 (1.63)
Ag. growth*Ag. share		22.37 (0.56)		-8.15 (0.35)		7.72 (0.79)		-2.58 (0.16)		9.52 (0.46)
Ln of output/ capita	-1.46 (0.39)	-0.58 (0.15)	-0.34 (0.09)	-3.87 (1.18)	-1.09 (0.34)	1.48 (0.49)	-2.69 (0.99)	-3.82 (1.23)	-5.90 (2.04)*	-8.05 (2.11)*
	<i>Policy Variables</i>									
Grain	-1.12 (1.78)*	-0.86 (1.37)	-0.22 (0.39)	0.10 (0.18)	-0.31 (0.48)	0.09 (0.14)	-0.02 (0.03)	0.04 (0.05)	-0.47 (0.91)	-0.06 (0.09)
SOE gross output value	2.70 (3.38)**	3.02 (2.39)**	0.75 (0.99)	3.12 (2.70)**	1.55 (2.67)**	2.74 (2.06)*	0.64 (1.09)	0.32 (0.23)	0.32 (0.67)	-1.24 (1.12)
SOE profitability	7.68 (1.84)*	28.98 (1.01)	-1.01 (0.29)	62.83 (2.32)**	0.31 (0.13)	29.69 (1.29)	-1.40 (0.68)	-5.06 (0.23)	-1.27 (1.13)	-24.89 (1.56)
SOE profit*output		-3.73 (0.82)		-11.70 (2.41)**		-4.96 (1.27)		0.59 (0.17)		3.42 (1.49)
	<i>Deposits</i>									
ABC Deposits	1.57 (7.47)**	1.63 (6.12)**	1.30 (5.45)**	1.10 (4.47)**	1.22 (5.50)**	1.49 (5.10)**	0.84 (5.14)**	0.76 (3.75)**	0.69 (4.07)**	0.61 (2.63)**
Total deposits	-2.26 (3.22)**	-1.78 (2.27)**	-1.87 (1.90)*	-1.92 (1.98)*	-1.70 (2.29)**	-1.81 (2.60)**	-1.12 (1.75)	-1.05 (1.34)	-1.56 (2.94)**	-1.87 (3.41)**
Observations	25	25	25	25	25	25	25	25	25	25
R-squared	0.89	0.90	0.82	0.90	0.84	0.88	0.83	0.84	0.82	0.87

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.



Table 7: Annual OLS Regressions of Financial Intermediation—BOC

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-0.11 (0.25)	0.40 (0.44)	-0.17 (0.44)	0.97 (0.63)	0.29 (1.07)	0.19 (0.73)	0.17 (0.45)	0.88 (1.15)	0.85 (2.83)**	-0.11 (0.36)
Ind. growth	-0.00 (0.00)	-1.69 (0.50)	-1.02 (1.60)	-11.67 (1.04)	-0.17 (0.62)	-0.20 (0.07)	-0.04 (0.19)	1.26 (1.29)	-0.32 (0.67)	-1.21 (1.00)
Ind. growth*Ind. share		2.13 (0.46)		13.27 (0.97)		0.08 (0.02)		-1.98 (1.44)		1.52 (0.95)
Ag. growth	-0.13 (0.28)	1.16 (0.53)	0.96 (1.77)*	-1.94 (0.91)	0.30 (0.82)	-0.34 (0.22)	-0.06 (0.09)	2.84 (2.43)**	-0.08 (0.13)	-4.84 (5.05)***
Ag. growth*Ag. share		-5.62 (0.61)		13.53 (1.28)		5.01 (0.93)		-8.19 (2.17)*		16.88 (5.21)***
Ln of output/ capita	2.08 (2.96)**	2.37 (3.92)***	2.71 (3.50)***	3.02 (4.52)***	2.26 (2.81)**	3.15 (3.76)***	1.67 (1.44)	2.42 (2.53)**	0.82 (0.72)	2.28 (2.70)**
	<i>Policy Variables</i>									
Grain	0.11 (1.06)	0.08 (0.91)	0.22 (1.32)	0.26 (1.95)*	0.19 (1.63)	0.34 (2.79)**	0.14 (1.30)	0.20 (2.14)*	0.25 (1.86)*	0.23 (1.95)*
SOE gross output value	0.08 (0.40)	0.35 (0.89)	-0.11 (0.42)	-0.03 (0.11)	0.05 (0.35)	0.12 (0.76)	0.11 (0.42)	0.02 (0.03)	-0.19 (1.02)	0.33 (1.87)*
SOE profitability	-4.03 (2.20)**	6.25 (1.39)	-4.95 (3.48)***	0.43 (0.17)	-4.99 (2.24)**	5.23 (0.59)	-4.47 (2.21)**	0.07 (0.08)	-1.72 (2.76)**	0.18 (0.05)
SOE profit*output		-1.73 (2.22)**		-1.13 (2.16)*		-2.34 (1.32)		-1.18 (0.87)		-0.21 (0.41)
	<i>Deposits</i>									
BOC Deposits	0.73 (6.57)***	0.86 (5.16)***	0.61 (6.47)***	0.71 (6.03)***	0.68 (8.19)***	0.75 (6.72)***	0.66 (9.29)***	0.56 (5.75)***	0.54 (7.73)***	0.72 (11.61)***
Total deposits	0.05 (0.24)	-0.06 (0.22)	0.23 (0.87)	0.18 (0.61)	-0.03 (0.14)	-0.09 (0.28)	-0.02 (0.09)	0.07 (0.32)	0.06 (0.31)	-0.18 (1.19)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.92	0.94	0.95	0.97	0.96	0.97	0.95	0.96	0.93	0.98

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	2001		2002		2003		2004	
	<i>Economic Fundamentals</i>							
Ind. share of output	0.35 (1.18)	-0.60 (0.97)	0.66 (2.16)**	-2.28 (2.19)**	0.69 (1.78)*	-2.45 (1.35)	0.86 (0.50)	-4.96 (0.95)
Ind. growth	-0.19 (0.21)	5.80 (1.63)	0.40 (0.82)	10.19 (2.99)**	-0.26 (0.44)	10.61 (1.97)*	-1.45 (0.95)	13.01 (0.70)
Ind. growth*Ind. share		-7.49 (1.57)		-12.46 (2.94)**		-14.01 (2.13)*		-18.22 (0.78)
Ag. growth	0.64 (0.70)	0.11 (0.06)	-1.33 (1.34)	-2.46 (1.56)	-0.65 (1.66)	1.08 (1.10)	4.05 (2.23)**	3.30 (0.47)
Ag. growth*Ag. share		2.54 (0.34)		6.13 (1.11)		-5.51 (1.59)		2.83 (0.10)
Ln of output/ capita	1.40 (1.73)	1.31 (1.44)	1.68 (1.70)	2.14 (2.27)**	1.17 (1.17)	0.74 (0.85)	4.21 (0.55)	3.64 (0.42)
	<i>Policy Variables</i>							
Grain	0.16 (0.86)	0.23 (1.24)	0.15 (1.21)	0.17 (1.28)	0.13 (0.64)	-0.14 (0.83)	1.81 (0.96)	2.04 (0.94)
SOE gross output value	0.15 (0.64)	0.26 (0.71)	0.01 (0.04)	0.29 (0.90)	-0.09 (0.29)	-0.58 (1.84)*	-0.51 (0.63)	-1.77 (0.77)
SOE profitability	-0.76 (0.66)	2.68 (0.28)	-1.89 (1.78)*	1.79 (0.28)	1.15 (1.23)	-13.93 (2.24)**	-5.53 (0.83)	-23.19 (0.65)
SOE profit*output		-0.60 (0.40)		-0.68 (0.55)		2.62 (2.43)**		2.74 (0.51)
	<i>Deposits</i>							
BOC Deposits	0.52 (5.29)***	0.51 (4.89)***	0.45 (6.18)***	0.52 (7.29)***	0.39 (3.66)***	0.32 (4.37)***	-0.02 (0.46)	-0.00 (0.07)
Total deposits	-0.10 (0.52)	-0.09 (0.31)	-0.21 (0.58)	-0.25 (0.71)	0.27 (0.82)	0.25 (0.85)	0.74 (0.80)	0.54 (0.48)
Observations	25	25	25	25	25	25	25	25
R-squared	0.91	0.92	0.86	0.92	0.84	0.91	0.21	0.24

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 8: Annual OLS Regressions of Financial Intermediation—ICBC

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-1.10 (0.69)	-0.78 (0.27)	-1.32 (0.73)	0.01 (0.00)	-0.56 (0.38)	0.62 (0.38)	-0.63 (0.28)	4.79 (1.11)	-0.54 (0.60)	-1.63 (0.76)
Ind. growth	-1.14 (1.63)	-21.96 (1.60)	-2.66 (1.21)	-32.30 (0.50)	-2.27 (1.38)	-29.25 (1.63)	-0.23 (0.20)	9.93 (1.41)	2.98 (1.56)	15.24 (2.21)**
Ind. growth*Ind. share		28.03 (1.50)		37.11 (0.48)		36.98 (1.48)		-14.25 (1.52)		-18.19 (1.97)*
Ag. growth	-1.12 (0.49)	-4.47 (0.64)	2.23 (1.06)	-14.67 (0.98)	2.07 (1.32)	2.68 (0.56)	-3.36 (0.87)	5.78 (0.75)	3.79 (1.91)*	5.82 (1.00)
Ag. growth*Ag. share		17.56 (0.65)		74.72 (0.97)		9.85 (0.51)		-27.22 (1.41)		-8.32 (0.47)
Ln of output/ capita	3.96 (1.32)	4.22 (1.40)	3.80 (1.10)	5.44 (1.98)*	5.73 (1.40)	10.61 (2.15)*	1.06 (0.13)	5.77 (0.95)	5.61 (0.96)	1.99 (0.26)
	<i>Policy Variables</i>									
Grain	0.15 (0.37)	0.33 (0.66)	0.47 (0.58)	0.38 (0.55)	0.62 (1.13)	1.05 (1.27)	-0.03 (0.05)	0.26 (0.45)	0.16 (0.24)	0.16 (0.26)
SOE gross output value	1.46 (1.42)	1.13 (0.83)	1.12 (0.92)	1.28 (1.26)	1.48 (1.41)	1.62 (1.26)	3.69 (2.64)**	3.26 (1.39)	2.23 (2.83)**	1.82 (2.14)*
SOE profitability	-25.55 (2.99)***	-7.09 (0.48)	-25.27 (3.83)***	-16.15 (1.37)	-32.12 (3.60)***	19.55 (0.43)	-6.65 (0.55)	-15.25 (0.31)	-4.83 (2.10)*	-17.59 (1.04)
SOE profit*output		-3.15 (1.17)		-1.93 (0.89)		-11.61 (1.22)		0.27 (0.03)		1.64 (0.68)
	<i>Deposits</i>									
ICBC Deposits	0.75 (4.64)***	0.77 (4.65)***	0.66 (3.90)***	0.74 (3.85)***	0.70 (4.86)***	0.73 (5.54)***	0.65 (1.84)*	0.79 (1.48)	0.74 (4.25)***	0.62 (3.52)***
Total deposits	-0.20 (0.34)	0.02 (0.03)	0.21 (0.20)	0.28 (0.30)	0.06 (0.09)	0.14 (0.17)	-0.24 (0.20)	-1.03 (0.60)	-0.72 (0.80)	-0.51 (0.55)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.89	0.92	0.89	0.92	0.89	0.90	0.88	0.91	0.91	0.93

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	2001		2002		2003		2004	
	<i>Economic Fundamentals</i>							
Ind. share of output	0.59 (0.61)	2.05 (0.57)	-0.17 (0.23)	6.69 (1.77)	-0.03 (0.04)	10.12 (2.28)**	0.69 (0.98)	3.34 (0.87)
Ind. growth	1.21 (0.33)	-11.44 (0.74)	0.31 (0.20)	-30.83 (2.06)*	-0.58 (0.38)	-36.44 (2.38)**	0.48 (0.42)	1.49 (0.10)
Ind. growth*Ind. share		14.02 (0.72)		39.45 (2.07)*		44.35 (2.39)**		-1.14 (0.06)
Ag. growth	-3.99 (1.10)	-7.33 (0.95)	0.46 (0.14)	-1.48 (0.24)	0.82 (0.89)	-1.73 (0.82)	-0.92 (0.48)	3.27 (0.94)
Ag. growth*Ag. share		13.11 (0.31)		10.17 (0.43)		7.80 (1.21)		-18.31 (1.09)
Ln of output/ capita	1.87 (0.32)	3.20 (0.48)	2.25 (0.65)	3.29 (0.73)	1.88 (0.91)	4.41 (2.63)**	3.19 (1.29)	4.45 (1.32)
	<i>Policy Variables</i>							
Grain	0.20 (0.23)	-0.18 (0.22)	0.12 (0.26)	0.14 (0.31)	0.25 (0.47)	-0.10 (0.32)	0.40 (0.56)	0.32 (0.41)
SOE gross output value	1.16 (1.40)	-0.53 (0.27)	1.39 (3.01)***	0.04 (0.02)	1.36 (3.27)***	-0.90 (1.02)	0.95 (1.55)	0.78 (0.46)
SOE profitability	-9.74 (2.00)*	-56.75 (1.23)	-5.07 (1.66)	-23.85 (0.62)	-3.46 (1.33)	-32.44 (1.90)*	-4.60 (1.79)*	-12.61 (0.49)
SOE profit*output		7.96 (1.10)		3.37 (0.50)		5.04 (1.65)		1.22 (0.31)
	<i>Deposits</i>							
ICBC Deposits	0.73 (4.01)***	0.88 (3.37)***	0.74 (4.37)***	0.89 (5.21)***	0.82 (7.01)***	1.09 (9.87)***	0.96 (3.46)***	0.98 (4.76)***
Total deposits	-0.46 (0.49)	-1.05 (0.72)	-0.62 (0.50)	-1.26 (0.96)	-1.22 (1.80)*	-1.98 (3.44)***	-2.11 (1.74)	-2.15 (2.09)*
Observations	25	25	25	25	25	25	25	25
R-squared	0.85	0.87	0.87	0.91	0.87	0.95	0.81	0.82

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 9: Annual OLS Regressions of Financial Intermediation—CCB

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-0.49 (0.44)	-0.82 (0.37)	-1.40 (1.14)	-2.13 (0.50)	-1.01 (0.98)	0.64 (0.64)	1.22 (2.39)**	3.09 (2.68)**	1.18 (2.98)***	0.74 (0.40)
Ind. growth	-0.38 (0.79)	-10.26 (0.97)	-2.29 (1.32)	-5.08 (0.15)	-1.38 (1.40)	-18.19 (2.01)*	0.26 (0.55)	5.99 (2.46)**	0.64 (0.50)	2.31 (0.44)
Ind. growth*Ind. share		13.33 (0.94)		3.78 (0.09)		23.17 (1.95)*		-8.45 (2.32)**		-2.21 (0.31)
Ag. growth	1.22 (0.87)	-1.28 (0.25)	2.91 (1.87)*	-4.50 (0.50)	-0.01 (0.01)	1.15 (0.33)	-0.80 (0.77)	7.03 (2.70)**	-0.36 (0.26)	-0.83 (0.20)
Ag. growth*Ag. share		12.31 (0.66)		30.73 (0.73)		-5.73 (0.39)		-18.75 (2.81)**		1.56 (0.11)
Ln of output/ capita	-2.17 (0.77)	-2.32 (0.75)	-0.65 (0.24)	-1.03 (0.32)	-3.06 (0.93)	-1.48 (0.47)	-2.49 (0.75)	-0.16 (0.06)	0.42 (0.12)	0.49 (0.11)
	<i>Policy Variables</i>									
Grain	-0.53 (1.33)	-0.43 (1.03)	-0.51 (1.13)	-0.77 (1.33)	-0.56 (1.84)*	-0.53 (1.40)	-0.10 (0.27)	0.10 (0.26)	0.18 (0.42)	0.21 (0.47)
SOE gross output value	1.53 (1.80)*	1.33 (1.17)	0.82 (1.07)	1.06 (1.27)	1.02 (1.74)	0.80 (1.47)	1.13 (1.19)	1.96 (2.56)**	0.54 (0.98)	0.75 (1.31)
SOE profitability	-5.36 (0.79)	5.02 (0.39)	-6.05 (1.01)	-16.86 (1.87)*	-2.18 (0.39)	-7.48 (0.30)	-0.75 (0.19)	43.93 (3.21)***	-2.84 (2.57)**	1.83 (0.16)
SOE profit*output		-1.86 (0.70)		2.49 (1.21)		1.27 (0.24)		-8.93 (3.48)***		-0.70 (0.43)
	<i>Deposits</i>									
CCB Deposits	0.81 (5.10)***	0.79 (4.20)***	0.89 (5.53)***	0.94 (4.94)***	0.71 (4.81)***	0.86 (4.91)***	0.69 (5.86)***	0.56 (4.08)***	0.63 (4.92)***	0.63 (4.07)***
Total deposits	-0.27 (0.55)	-0.12 (0.27)	-0.33 (0.53)	-0.50 (0.76)	-0.04 (0.09)	-0.42 (0.89)	-0.53 (1.07)	-0.61 (1.38)	-0.21 (0.47)	-0.21 (0.44)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.89	0.90	0.90	0.92	0.91	0.94	0.89	0.94	0.92	0.92

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	2001		2002		2003		2004		2005	
	<i>Economic Fundamentals</i>									
Ind. share of output	0.65 (1.36)	1.90 (0.96)	1.15 (2.80)**	0.81 (0.31)	1.04 (1.95)*	2.86 (1.12)	0.96 (1.65)	1.67 (0.53)	0.82 (1.23)	4.30 (1.27)
Ind. growth	-3.03 (1.79)*	-11.58 (1.13)	-1.20 (1.56)	-4.91 (0.50)	-1.50 (2.14)**	-6.27 (0.65)	-0.77 (0.98)	-5.59 (0.76)	-0.72 (0.52)	-5.09 (0.46)
Ind. growth*Ind. share		9.60 (0.79)		4.79 (0.39)		5.58 (0.48)		5.98 (0.66)		5.87 (0.45)
Ag. growth	-1.44 (1.06)	-1.02 (0.18)	-1.13 (0.95)	-4.24 (1.51)	-0.19 (0.26)	1.65 (1.04)	0.55 (0.78)	-1.04 (0.29)	0.77 (0.59)	4.99 (1.45)
Ag. growth*Ag. share		-1.77 (0.06)		13.96 (1.02)		-7.39 (1.16)		6.52 (0.47)		-24.68 (1.67)
Ln of output/ capita	-0.83 (0.44)	0.44 (0.17)	1.40 (0.76)	2.14 (0.73)	0.13 (0.08)	-0.39 (0.22)	1.72 (0.62)	1.69 (0.58)	2.05 (0.68)	2.13 (0.61)
	<i>Policy Variables</i>									
Grain	-0.08 (0.26)	-0.21 (0.61)	0.56 (2.29)**	0.60 (2.29)**	0.50 (1.93)*	0.48 (1.46)	0.81 (1.44)	0.82 (1.28)	0.88 (1.49)	0.90 (1.31)
SOE gross output value	0.43 (1.03)	-0.32 (0.40)	-0.21 (0.61)	0.12 (0.19)	-0.32 (0.80)	0.23 (0.28)	-0.80 (1.71)	-0.42 (0.46)	-0.64 (1.58)	-0.20 (0.30)
SOE profitability	0.14 (0.07)	-23.23 (1.32)	-2.76 (2.55)**	6.14 (0.56)	-0.12 (0.13)	8.10 (0.54)	-1.56 (2.06)*	6.40 (0.34)	-1.54 (2.69)**	7.65 (0.51)
SOE profit*output		4.03 (1.43)		-1.57 (0.81)		-1.39 (0.54)		-1.24 (0.43)		-1.35 (0.61)
	<i>Deposits</i>									
CCB Deposits	0.66 (7.99)***	0.74 (5.49)***	0.77 (11.56)***	0.80 (7.44)***	0.83 (13.77)***	0.81 (13.29)***	0.76 (4.50)***	0.78 (3.95)***	0.79 (4.61)***	0.83 (3.71)***
Total deposits	-0.44 (1.33)	-0.63 (1.24)	-0.66 (1.58)	-0.69 (1.54)	-0.64 (2.08)*	-0.51 (1.36)	-0.70 (1.43)	-0.65 (1.09)	-0.51 (1.36)	-0.47 (0.91)
Observations	25	25	25	25	25	25	25	25	25	25
R-squared	0.91	0.92	0.93	0.94	0.92	0.93	0.85	0.85	0.85	0.87

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 10: Annual OLS Regressions of Financial Intermediation—BoComm

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	-0.23 (1.74)	-0.69 (3.21)**	-0.23 (1.63)	-0.60 (1.26)	-0.35 (1.75)	0.02 (0.21)	-0.18 (1.18)	0.12 (0.83)	-0.29 (2.70)**	-0.10 (0.72)
Ind. growth	-0.11 (1.63)	0.21 (0.28)	0.02 (0.09)	1.79 (0.53)	-0.28 (1.30)	-5.62 (6.44)***	-0.02 (0.36)	0.37 (1.09)	0.26 (1.85)*	0.66 (1.59)
Ind. growth*Ind. share		-0.43 (0.40)		-2.14 (0.50)		7.45 (6.50)***		-0.59 (1.25)		-0.68 (1.21)
Ag. growth	-0.12 (0.92)	-1.31 (2.54)**	0.15 (0.80)	-0.35 (0.37)	-0.11 (0.59)	0.69 (1.65)	-0.52 (2.36)**	0.83 (2.62)**	-0.38 (1.33)	0.86 (2.16)*
Ag. growth*Ag. share		4.93 (2.78)**		1.59 (0.39)		-2.26 (1.09)		-3.82 (4.99)***		-3.84 (3.40)***
Ln of output/capita	0.00 (0.02)	-0.31 (1.45)	-0.02 (0.05)	-0.12 (0.29)	-0.03 (0.07)	0.33 (0.76)	0.19 (0.63)	0.58 (2.49)**	1.29 (2.58)**	0.70 (1.67)
	<i>Policy Variables</i>									
Grain	-0.04 (1.34)	0.01 (0.30)	-0.06 (1.02)	-0.09 (1.11)	-0.07 (2.39)**	-0.05 (1.90)*	-0.05 (1.24)	0.01 (0.20)	0.02 (0.24)	0.02 (0.29)
SOE gross output value	-0.10 (1.26)	-0.25 (3.11)**	-0.10 (1.11)	-0.06 (0.58)	-0.09 (0.87)	-0.09 (1.63)	0.04 (0.46)	0.04 (0.45)	0.17 (2.30)**	0.17 (2.31)**
SOE profitability	-1.43 (2.14)*	-0.40 (0.31)	-1.24 (2.08)*	-1.41 (0.77)	-0.87 (1.04)	4.91 (1.95)*	-0.82 (1.40)	0.38 (0.12)	-0.59 (3.14)***	0.96 (0.74)
SOE profit*output		-0.26 (1.20)		0.06 (0.15)		-1.25 (2.45)**		-0.39 (0.73)		-0.27 (1.48)
	<i>Deposits</i>									
BoComm	0.80 (16.62)***	0.90 (15.22)***	0.74 (10.87)***	0.74 (8.40)***	0.90 (7.10)***	0.87 (10.00)***	0.77 (15.76)***	0.76 (15.57)***	0.78 (24.13)***	0.74 (23.90)***
Deposits	0.08 (1.23)	0.07 (1.23)	0.02 (0.29)	-0.00 (0.05)	0.07 (0.98)	0.07 (1.66)	0.12 (2.04)*	0.12 (1.29)	0.08 (1.60)	0.05 (0.52)
Total deposits										
Observations	22	22	22	22	23	23	23	23	23	23
R-squared	0.97	0.99	0.96	0.96	0.90	0.98	0.97	0.99	0.98	0.99

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	2001		2002		2003		2004	
	<i>Economic Fundamentals</i>							
Ind. share of output	-0.14 (1.76)	0.42 (1.47)	-0.12 (2.26)**	0.05 (0.17)	0.10 (2.17)**	0.64 (2.45)**	0.33 (2.77)**	-0.01 (0.02)
Ind. growth	0.08 (0.24)	-3.64 (2.23)**	-0.28 (1.39)	-1.56 (1.08)	-0.32 (2.14)*	-2.17 (2.45)**	0.12 (0.88)	0.16 (0.10)
Ind. growth*Ind. share		4.61 (2.48)**		1.56 (0.99)		2.29 (2.21)*		-0.01 (0.00)
Ag. growth	0.09 (0.25)	0.96 (0.88)	0.03 (0.10)	-0.18 (0.31)	-0.15 (2.56)**	-0.28 (0.99)	0.03 (0.20)	-0.53 (0.73)
Ag. growth*Ag. share		-3.36 (0.65)		1.41 (0.37)		0.24 (0.27)		2.08 (0.75)
Ln of output/capita	0.19 (0.42)	0.25 (0.53)	0.16 (0.60)	0.16 (0.49)	-0.29 (1.70)	-0.30 (1.62)	-0.71 (1.64)	-0.80 (1.52)
	<i>Policy Variables</i>							
Grain	-0.11 (1.49)	-0.16 (1.97)*	-0.05 (1.27)	-0.07 (1.51)	0.00 (0.08)	-0.00 (0.04)	-0.08 (0.95)	-0.04 (0.40)
SOE gross output value	0.10 (1.14)	0.12 (0.58)	0.10 (1.46)	0.05 (0.33)	-0.01 (0.16)	-0.00 (0.02)	-0.09 (0.82)	0.01 (0.06)
SOE profitability	-0.76 (1.77)	-0.26 (0.06)	-0.42 (1.49)	-1.47 (0.45)	-0.30 (2.13)*	0.23 (0.13)	-0.14 (0.52)	2.25 (0.53)
SOE profit*output		-0.02 (0.03)		0.22 (0.37)		-0.09 (0.32)		-0.37 (0.57)
	<i>Deposits</i>							
BoComm	0.81 (12.76)***	0.89 (10.77)***	0.81 (13.68)***	0.83 (9.34)***	0.79 (22.80)***	0.81 (22.99)***	0.71 (14.58)***	0.66 (9.89)***
Deposits	-0.07 (1.27)	-0.09 (0.80)	-0.06 (0.74)	-0.05 (0.55)	-0.08 (2.18)**	-0.08 (1.45)	-0.16 (1.91)*	-0.14 (1.53)
Total deposits								
Observations	23	23	23	23	23	23	23	23
R-squared	0.97	0.97	0.98	0.98	0.99	0.99	0.95	0.95

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 11: Annual OLS Regressions of Financial Intermediation—RCCs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1996		1997		1998		1999		2000	
	<i>Economic Fundamentals</i>									
Ind. share of output	0.52 (0.80)	0.59 (0.72)	0.50 (1.76)	-1.31 (1.11)	0.32 (1.02)	0.14 (0.54)	0.53 (1.44)	-0.05 (0.09)	0.86 (2.75)**	0.57 (1.00)
Ind. growth	0.49 (2.33)**	-0.76 (0.28)	0.85 (1.60)	14.56 (1.74)	0.05 (0.16)	3.62 (0.91)	-0.13 (0.57)	-0.89 (1.28)	-0.35 (0.99)	0.73 (0.37)
Ind. growth*Ind. share		1.61 (0.42)		-16.84 (1.61)		-4.81 (0.92)		1.15 (1.08)		-1.40 (0.52)
Ag. growth	-0.30 (0.50)	0.72 (0.42)	-0.21 (0.42)	1.46 (0.58)	0.06 (0.13)	0.49 (0.25)	-0.20 (0.34)	-3.62 (2.38)**	-0.16 (0.28)	0.38 (0.23)
Ag. growth*Ag. share		-4.55 (0.80)		-9.90 (0.91)		-1.29 (0.18)		9.22 (2.51)**		-1.49 (0.34)
Ln of output/ capita	-0.45 (0.33)	0.33 (0.22)	-0.75 (0.78)	-0.85 (0.79)	-0.06 (0.06)	-0.36 (0.21)	-0.92 (0.79)	-2.37 (2.69)**	-2.33 (2.79)**	-2.28 (2.23)**
	<i>Policy Variables</i>									
Grain	-0.05 (0.39)	-0.12 (0.84)	-0.15 (1.25)	-0.13 (0.71)	-0.04 (0.56)	-0.01 (0.12)	0.03 (0.31)	-0.15 (1.46)	-0.00 (0.04)	0.07 (0.47)
SOE gross output value	-0.13 (0.27)	0.21 (0.41)	-0.10 (0.51)	-0.11 (0.45)	-0.04 (0.29)	-0.05 (0.28)	-0.39 (1.21)	-0.26 (1.12)	-0.66 (2.67)**	-0.34 (1.18)
SOE profitability	0.47 (0.30)	4.88 (1.03)	0.70 (0.47)	1.57 (0.40)	0.58 (0.25)	4.06 (0.34)	-0.16 (0.10)	-0.52 (0.11)	-0.59 (0.85)	9.00 (1.54)
SOE profit*output		-0.67 (0.92)		-0.10 (0.16)		-0.77 (0.29)		0.53 (0.61)		-1.44 (1.74)
	<i>Deposits</i>									
RCCs Deposits	0.77 (9.19)***	0.83 (7.37)***	0.67 (25.34)***	0.69 (19.93)***	0.70 (30.90)***	0.69 (29.70)***	0.73 (32.97)***	0.72 (33.88)***	0.65 (9.76)***	0.67 (8.48)***
Total deposits	-0.02 (0.04)	-0.16 (0.41)	0.05 (0.29)	-0.02 (0.12)	0.05 (0.27)	0.12 (0.69)	-0.03 (0.24)	0.14 (0.79)	0.20 (0.93)	0.15 (0.68)
Observations	24	24	24	24	25	25	25	25	25	25
R-squared	0.97	0.97	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	2001		2002		2003		2004		2005	
	<i>Economic Fundamentals</i>									
Ind. share of output	1.91 (3.01)***	1.56 (0.86)	1.30 (3.25)***	3.00 (2.81)**	0.85 (1.44)	-2.09 (0.61)	0.75 (1.71)	0.31 (0.21)	1.04 (1.80)*	-0.80 (0.29)
Ind. growth	-0.11 (0.08)	-0.72 (0.09)	0.14 (0.22)	-2.26 (0.56)	0.08 (0.07)	9.06 (0.87)	-0.28 (0.38)	1.96 (0.41)	0.43 (0.47)	10.11 (1.18)
Ind. growth*Ind. share		0.40 (0.04)		3.71 (0.71)		-10.95 (0.84)		-3.18 (0.51)		-12.68 (1.23)
Ag. growth	-0.81 (1.02)	-3.18 (0.74)	-0.10 (0.08)	2.04 (1.34)	0.06 (0.14)	-1.19 (0.67)	0.15 (0.25)	0.24 (0.16)	-1.10 (1.07)	-0.67 (0.24)
Ag. growth*Ag. share		11.00 (0.56)		-13.81 (2.24)**		5.33 (0.89)		-1.45 (0.24)		-6.49 (0.60)
Ln of output/ capita	-2.68 (2.35)**	-2.58 (2.13)*	-2.96 (3.55)***	-3.70 (4.70)***	-1.76 (1.23)	-1.69 (0.94)	-1.65 (1.52)	-2.43 (1.75)	-2.74 (1.88)*	-4.05 (1.93)*
	<i>Policy Variables</i>									
Grain	0.15 (0.48)	0.05 (0.17)	0.08 (0.51)	0.20 (1.45)	0.07 (0.20)	0.13 (0.29)	0.08 (0.24)	0.25 (0.72)	-0.02 (0.10)	0.22 (0.81)
SOE gross output value	-1.25 (2.31)**	-1.52 (2.00)*	-0.67 (1.61)	0.06 (0.11)	-0.01 (0.03)	-0.29 (0.45)	0.01 (0.04)	0.40 (0.69)	-0.02 (0.07)	-0.11 (0.36)
SOE profitability	-3.09 (1.32)	-13.81 (0.90)	-2.11 (1.40)	12.14 (1.53)	-2.22 (1.48)	-5.89 (0.44)	-0.88 (1.14)	9.07 (0.85)	-0.45 (1.03)	0.93 (0.11)
SOE profit*output		1.82 (0.75)		-2.60 (1.85)*		0.59 (0.25)		-1.56 (0.96)		-0.22 (0.18)
	<i>Deposits</i>									
RCCs Deposits	0.47 (4.31)***	0.50 (4.08)***	0.60 (6.29)***	0.69 (6.48)***	0.71 (5.15)***	0.69 (5.43)***	0.69 (6.34)***	0.61 (4.55)***	0.72 (4.08)***	0.66 (3.73)***
Total deposits	0.61 (1.46)	0.55 (1.15)	0.28 (0.45)	-0.12 (0.18)	0.06 (0.10)	0.01 (0.02)	-0.02 (0.03)	0.27 (0.51)	-0.31 (0.51)	-0.22 (0.35)
Observations	25	25	25	25	25	25	25	25	25	25
R-squared	0.94	0.94	0.95	0.97	0.91	0.92	0.94	0.94	0.93	0.94

Notes: Dependent variable is the ratio of loans to GDP. OLS regressions across provinces with robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 12: P-values of Hausman-Taylor Test of FE vs. RE									
		ABC/ ADBC	State Banks	ABC	BOC	BoComm	ICBC	CCB	RCCs
Pre-2001	w/o interaction terms	<b>0.0000</b>	0.7315	<b>0.0002</b>	0.8682	1.0000	0.8611	0.6530	1.0000
	with interaction terms	<b>0.0000</b>	0.1256	<b>0.0000</b>	0.6829	<b>0.0210</b>	0.9141	1.0000	1.0000
2001 & after	w/o interaction terms	<b>0.0252</b>	0.6734	1.0000	0.9964	0.1026	<b>0.0000</b>	<b>0.0001</b>	0.9715
	with interaction terms	0.3860	0.8156	0.9927	0.9843	<b>0.0756</b>	<b>0.0000</b>	<b>0.0425</b>	0.9886
		Notes: The null hypothesis is that the difference in coefficients is not systematic. Reported are the p-values of a Hausman-Taylor test between fixed effects and random effects estimators.							

Table 13: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition — ABC/ADBC

	(1)	(2)	(3)	(4)
	Pre-2001	2001 & after		
	<i>Economic Fundamentals</i>			
Ind. share of output	-1.857 (1.20)	-2.091 (1.10)	-2.090 (1.24)	-2.487 (1.39)
Ind. growth	-0.172 (0.53)	0.307 (0.32)	-1.376 (2.08)**	-1.010 (0.33)
Ind. growth*Ind. share of output		-0.593 (0.51)		-0.441 (0.11)
Ag. growth	-0.350 (0.48)	-1.728 (1.33)	0.049 (0.15)	-1.061 (1.45)
Ag. growth*Ag. share of output		5.487 (0.94)		4.535 (1.37)
Ln of output per capita	-26.073 (3.41)***	-23.269 (2.89)***	12.882 (1.39)	10.798 (1.63)
	<i>Policy Variables</i>			
Grain	0.329 (0.75)	0.297 (0.60)	0.426 (0.82)	0.200 (0.39)
SOE gross output value	-0.052 (1.20)	-0.048 (1.07)	0.022 (0.42)	-0.022 (0.37)
SOE profitability	0.057 (0.15)	0.100 (0.07)	-0.077 (0.34)	-0.660 (0.72)
SOE profit*output		-0.137 (0.07)		0.956 (0.71)
	<i>Deposits</i>			
Deposits of ABC and ADBC	0.845 (4.46)***	0.875 (3.66)***	1.025 (5.19)***	1.058 (5.43)***
Total deposits	-2.825 (3.90)***	-2.595 (3.15)***	1.869 (1.56)	1.606 (1.72)*
	<i>Past Policy Variables</i>			
Sum of previous years of grain output	1.048 (1.22)	0.465 (0.40)	-2.058 (2.28)**	-1.818 (1.87)*
Sum of previous years of SOE output	0.570 (3.12)***	0.650 (2.79)**	-0.329 (3.02)***	-0.394 (2.70)**
Sum of previous years of SOEPY	0.596 (1.50)	0.756 (1.83)*	-0.178 (1.42)	-0.248 (2.18)**
Observations	147	147	125	125
Number of group(province)	25	25	25	25
R-squared	0.88	0.89	0.86	0.87

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 14: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition — State banks

	(1)	(2)	(3)	(4)
	Pre-2001		2001 & after	
	<i>Economic Fundamentals</i>			
Ind. share of output	-0.522 (0.30)	-1.177 (0.71)	-5.625 (0.76)	-6.134 (0.89)
Ind. growth	-0.566 (1.71)	-1.203 (1.21)	-1.381 (1.22)	17.942 (2.07)**
Ind. growth*Ind. share of output		0.820 (0.69)		-24.024 (2.19)**
Ag. growth	0.510 (1.25)	-0.707 (0.43)	1.291 (1.14)	0.638 (0.31)
Ag. growth*Ag. share of output		5.427 (0.88)		-2.295 (0.27)
Ln of output per capita	7.783 (1.42)	11.933 (1.57)	-0.900 (0.03)	-48.699 (1.21)
	<i>Policy Variables</i>			
Grain	0.459 (1.24)	0.656 (1.73)*	-1.512 (0.95)	-2.953 (1.51)
SOE gross output value	-0.060 (2.44)**	-0.061 (2.09)**	0.056 (0.28)	0.115 (0.48)
SOE profitability	-0.562 (1.39)	-3.367 (1.95)*	-1.411 (2.23)**	1.341 (0.66)
SOE profit*output		4.161 (1.78)*		-3.765 (1.08)
	<i>Deposits</i>			
Deposits of state banks	0.756 (10.59)***	0.757 (10.25)***	-0.059 (1.45)	0.009 (0.17)
Total deposits	1.805 (0.83)	1.656 (0.84)	3.027 (0.84)	-0.948 (0.21)
	<i>Past Policy Variables</i>			
Sum of previous years of grain output	1.077 (1.19)	0.402 (0.36)	2.569 (0.74)	5.188 (1.47)
Sum of previous years of SOE output	-0.432 (2.30)**	-0.457 (2.40)**	-0.973 (1.95)*	-0.933 (1.77)*
Sum of previous years of SOEPY	0.636 (1.64)	0.696 (1.57)	-0.080 (0.22)	-0.261 (0.67)
Observations	147	147	100	100
Number of group(province)	25	25	25	25
R-squared	0.79	0.81	0.38	0.44

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. State banks include the CCB, BOC, ICBC, and BoComm. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.



Table 15: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition —ABC

	(1)	(2)	(3)	(4)
		Pre-2001	2001 & after	
		<i>Economic Fundamentals</i>		
Ind. share of output	1.152 (1.27)	1.483 (1.38)	-1.565 (0.94)	-2.081 (1.04)
Ind. growth	-0.262 (1.43)	0.565 (0.98)	-0.919 (1.45)	0.586 (0.29)
Ind. growth*Ind. share of output		-1.046 (1.49)		-1.903 (0.63)
Ag. growth	0.037 (0.09)	-0.146 (0.16)	-0.162 (0.76)	-0.766 (1.85)*
Ag. growth*Ag. share of output		0.516 (0.18)		2.347 (1.22)
Ln of output per capita	-10.389 (1.99)*	-10.001 (1.93)*	14.136 (1.55)	11.201 (1.67)
		<i>Policy Variables</i>		
Grain	0.615 (2.05)*	0.551 (1.69)	1.163 (2.34)**	0.986 (1.82)*
SOE gross output value	0.045 (2.11)**	0.046 (2.28)**	-0.007 (0.16)	-0.044 (0.78)
SOE profitability	-0.184 (0.84)	0.778 (0.84)	-0.370 (1.80)*	-0.840 (0.92)
SOE profit*output		-1.501 (1.11)		0.812 (0.63)
		<i>Deposits</i>		
ABC deposits	1.080 (6.61)***	1.045 (5.83)***	0.846 (5.03)***	0.888 (4.59)***
Total deposits	-3.074 (5.64)***	-2.730 (3.96)***	0.951 (0.96)	0.610 (0.94)
		<i>Past Policy Variables</i>		
Sum of previous years of grain output	0.353 (0.57)	0.369 (0.45)	0.831 (1.47)	1.200 (1.72)*
Sum of previous years of SOE output	0.133 (1.24)	0.171 (1.56)	-0.218 (2.99)***	-0.285 (2.44)**
Sum of previous years of SOEPY	-0.388 (2.05)*	-0.343 (1.48)	0.180 (1.76)*	0.107 (1.20)
Observations	147	147	125	125
Number of group(province)	25	25	25	25
R-squared	0.82	0.83	0.70	0.73

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 16: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition —  
BOC

	(1)	(2)	(3)	(4)
	Pre-2001		2001 & after	
	<i>Economic Fundamentals</i>			
Ind. share of output	0.114 (0.36)	0.121 (0.31)	-6.957 (1.52)	-7.218 (1.67)
Ind. growth	-0.050 (0.70)	0.115 (0.29)	-1.681 (3.08)***	8.232 (1.03)
Ind. growth*Ind. share of output		-0.220 (0.40)		-12.356 (1.27)
Ag. growth	0.223 (2.76)**	0.158 (0.73)	1.585 (2.13)**	0.700 (0.58)
Ag. growth*Ag. share of output		0.376 (0.59)		1.033 (0.20)
Ln of output per capita	2.693 (1.11)	3.661 (1.12)	5.373 (0.49)	-22.103 (0.86)
	<i>Policy Variables</i>			
Grain	0.160 (1.40)	0.197 (1.77)*	-0.470 (0.32)	-1.229 (0.62)
SOE gross output value	-0.004 (0.82)	-0.005 (0.85)	0.003 (0.02)	-0.014 (0.10)
SOE profitability	-0.167 (1.41)	-0.493 (1.14)	-0.721 (1.84)*	0.353 (0.31)
SOE profit*output		0.471 (0.79)		-1.212 (0.60)
	<i>Deposits</i>			
BOC deposits	0.490 (4.20)***	0.518 (5.56)***	-0.037 (2.17)**	-0.008 (0.25)
Total deposits	0.679 (1.13)	0.690 (1.11)	1.075 (0.43)	-0.923 (0.25)
	<i>Past Policy Variables</i>			
Sum of previous years of grain output	0.158 (0.89)	0.107 (0.57)	3.047 (1.92)*	4.646 (2.52)**
Sum of previous years of SOE output	-0.030 (0.77)	-0.037 (0.81)	-0.122 (0.56)	-0.191 (0.80)
Sum of previous years of SOEPY	0.061 (0.54)	0.062 (0.52)	-0.387 (1.36)	-0.527 (1.72)*
Observations	147	147	100	100
Number of group(province)	25	25	25	25
R-squared	0.61	0.62	0.22	0.27

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 17: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition — ICBC

	(1)	(2)	(3)	(4)
	Pre-2001		2001 & after	
	<i>Economic Fundamentals</i>			
Ind. share of output	-1.298 (1.95)*	-1.647 (2.36)**	-2.593 (1.54)	-2.635 (1.62)
Ind. growth	-0.363 (2.08)**	-0.780 (1.18)	-0.309 (0.89)	4.819 (2.66)**
Ind. growth*Ind. share of output		0.528 (0.60)		-6.424 (2.93)***
Ag. growth	0.243 (1.21)	-0.186 (0.36)	0.152 (0.56)	0.221 (0.39)
Ag. growth*Ag. share of output		2.060 (1.07)		-1.230 (0.53)
Ln of output per capita	1.826 (0.70)	3.747 (1.24)	1.142 (0.15)	-11.489 (1.25)
	<i>Policy Variables</i>			
Grain	0.245 (1.79)*	0.366 (2.31)**	-0.671 (1.46)	-0.931 (2.07)**
SOE gross output value	-0.016 (1.81)*	-0.017 (1.61)	0.156 (2.37)**	0.145 (1.96)*
SOE profitability	-0.028 (0.14)	-1.614 (2.16)**	-0.377 (2.64)**	0.180 (0.34)
SOE profit*output		2.358 (2.35)**		-0.518 (0.74)
	<i>Deposits</i>			
ICBC deposits	0.843 (15.54)***	0.853 (17.98)***	0.766 (3.56)***	0.741 (3.75)***
Total deposits	0.145 (0.17)	-0.005 (0.01)	-1.605 (1.34)	-2.412 (1.79)*
	<i>Past Policy Variables</i>			
Sum of previous years of grain output	-0.444 (1.34)	-0.727 (1.94)*	0.843 (0.77)	1.646 (1.41)
Sum of previous years of SOE output	-0.016 (0.23)	-0.045 (0.54)	-0.390 (2.66)**	-0.425 (3.14)***
Sum of previous years of SOEPY	0.174 (1.40)	0.180 (1.56)	0.035 (0.35)	-0.036 (0.33)
Observations	147	147	100	100
Number of group(province)	25	25	25	25
R-squared	0.88	0.90	0.83	0.84

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 18: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition —CCB

	(1)	(2)	(3)	(4)
		Pre-2001	2001 & after	
		<i>Economic Fundamentals</i>		
Ind. share of output	1.213 (1.20)	0.918 (0.94)	-1.049 (0.72)	-0.792 (0.52)
Ind. growth	-0.053 (0.34)	-0.422 (0.77)	0.070 (0.19)	-1.583 (0.89)
Ind. growth*Ind. share of output		0.513 (0.78)		2.081 (1.00)
Ag. growth	0.310 (1.08)	-0.762 (0.64)	-0.203 (1.13)	-0.400 (1.05)
Ag. growth*Ag. share of output		4.470 (0.93)		0.975 (0.69)
Ln of output per capita	6.746 (1.77)*	9.433 (1.82)*	-1.139 (0.23)	0.706 (0.14)
		<i>Policy Variables</i>		
Grain	0.312 (1.25)	0.372 (1.45)	-0.690 (1.81)*	-0.656 (1.72)*
SOE gross output value	-0.034 (2.34)**	-0.032 (1.92)*	-0.036 (0.85)	0.003 (0.06)
SOE profitability	-0.325 (1.50)	-1.292 (1.75)*	-0.223 (2.50)**	0.404 (1.12)
SOE profit*output		1.456 (1.31)		-1.006 (1.91)*
		<i>Deposits</i>		
CCB deposits	0.565 (5.28)***	0.513 (4.09)***	0.591 (5.46)***	0.612 (5.43)***
Total deposits	1.813 (1.78)*	1.913 (2.07)**	-0.152 (0.22)	0.106 (0.16)
		<i>Past Policy Variables</i>		
Sum of previous years of grain output	1.287 (2.15)**	0.828 (1.11)	-0.052 (0.07)	-0.346 (0.41)
Sum of previous years of SOE output	-0.370 (3.06)***	-0.343 (3.07)***	-0.218 (1.87)*	-0.148 (1.32)
Sum of previous years of SOEPY	0.292 (1.06)	0.353 (1.13)	0.051 (0.70)	0.116 (1.47)
Observations	147	147	125	125
Number of group(province)	25	25	25	25
R-squared	0.57	0.61	0.74	0.76

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 19: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition —  
BoComm

	(1)	(2)	(3)	(4)
	Pre-2001		2001 & after	
	<i>Economic Fundamentals</i>			
Ind. share of output	0.071 (0.97)	0.090 (1.24)	-0.396 (0.86)	-0.484 (1.07)
Ind. growth	-0.001 (0.09)	0.028 (0.71)	-0.033 (0.31)	0.291 (0.59)
Ind. growth*Ind. share of output		-0.042 (0.80)		-0.423 (0.65)
Ag. growth	-0.004 (0.11)	0.047 (0.64)	0.068 (1.26)	0.000 (0.00)
Ag. growth*Ag. share of output		-0.167 (0.68)		0.223 (0.42)
Ln of output per capita	-0.037 (0.11)	0.041 (0.11)	5.437 (3.06)***	4.285 (2.02)*
	<i>Policy Variables</i>			
Grain	-0.027 (0.99)	-0.017 (0.62)	-0.123 (1.57)	-0.148 (1.66)
SOE gross output value	0.002 (1.88)*	0.002 (1.63)	-0.003 (0.24)	-0.013 (0.78)
SOE profitability	-0.021 (0.91)	-0.122 (1.58)	-0.058 (1.01)	-0.107 (0.77)
SOE profit*output		0.151 (1.45)		0.132 (0.55)
	<i>Deposits</i>			
BoComm deposits	0.621 (16.68)***	0.620 (15.65)***	0.685 (10.76)***	0.709 (11.17)***
Total deposits	0.018 (0.25)	0.014 (0.17)	0.056 (0.28)	-0.031 (0.19)
	<i>Past Policy Variables</i>			
Sum of previous years of grain output	-0.127 (2.87)***	-0.123 (2.45)**	0.277 (1.35)	0.406 (2.00)*
Sum of previous years of SOE output	0.022 (2.34)**	0.017 (1.86)*	-0.054 (2.33)**	-0.075 (2.72)**
Sum of previous years of SOEPY	0.001 (0.04)	-0.008 (0.48)	0.021 (0.80)	0.002 (0.09)
Observations	135	135	92	92
Number of group(province)	23	23	23	23
R-squared	0.93	0.94	0.83	0.84

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Table 20: FE Estimations of Financial Intermediation Pre- and Post-WTO Transition—  
RCCs

	(1)	(2)	(3)	(4)
		Pre-2001	2001 & after	
		<i>Economic Fundamentals</i>		
Ind. share of output	0.274 (0.96)	0.312 (0.98)	0.296 (0.27)	0.359 (0.31)
Ind. growth	0.060 (1.20)	0.225 (1.52)	0.042 (0.20)	-0.576 (0.76)
Ind. growth*Ind. share of output		-0.207 (1.27)		0.799 (0.78)
Ag. growth	0.029 (0.47)	-0.084 (0.43)	0.070 (0.51)	-0.049 (0.16)
Ag. growth*Ag. share of output		0.396 (0.55)		0.559 (0.54)
Ln of output per capita	1.125 (0.86)	1.245 (0.85)	-3.311 (1.03)	-2.767 (0.79)
		<i>Policy Variables</i>		
Grain	0.099 (2.42)**	0.077 (1.36)	-0.281 (0.94)	-0.281 (0.99)
SOE gross output value	0.002 (0.44)	0.003 (0.53)	-0.009 (0.28)	-0.047 (1.03)
SOE profitability	-0.078 (1.91)*	0.181 (1.05)	-0.018 (0.22)	-0.680 (1.72)*
SOE profit*output		-0.400 (1.47)		0.982 (1.73)*
		<i>Deposits</i>		
Deposits of RCCs	0.699 (98.88)***	0.699 (89.41)***	0.599 (4.09)***	0.608 (4.20)***
Total deposits	-0.182 (1.49)	-0.115 (0.88)	-0.281 (0.83)	-0.420 (1.03)
		<i>Past Policy Variables</i>		
Sum of previous years of grain output	0.293 (1.94)*	0.264 (1.54)	0.416 (0.72)	0.375 (0.66)
Sum of previous years of SOE output	-0.025 (0.77)	-0.010 (0.28)	0.094 (1.49)	0.051 (0.67)
Sum of previous years of SOEPY	-0.105 (2.90)***	-0.085 (1.80)*	0.002 (0.03)	-0.032 (0.41)
Observations	147	147	125	125
Number of group(province)	25	25	25	25
R-squared	0.99	0.99	0.80	0.81

Notes: Dependent variable is the ratio of loans to GDP. Fixed effects regressions across provinces with cluster-correlated robust standard errors. Reported are coefficients and t-statistics in parentheses where \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Excluded provinces are Beijing, Tianjin, Shanghai, Yunnan, and Inner Mongolia as outliers and Tibet due to missing data.

Figure 1: Big Five Share of Market Deposits

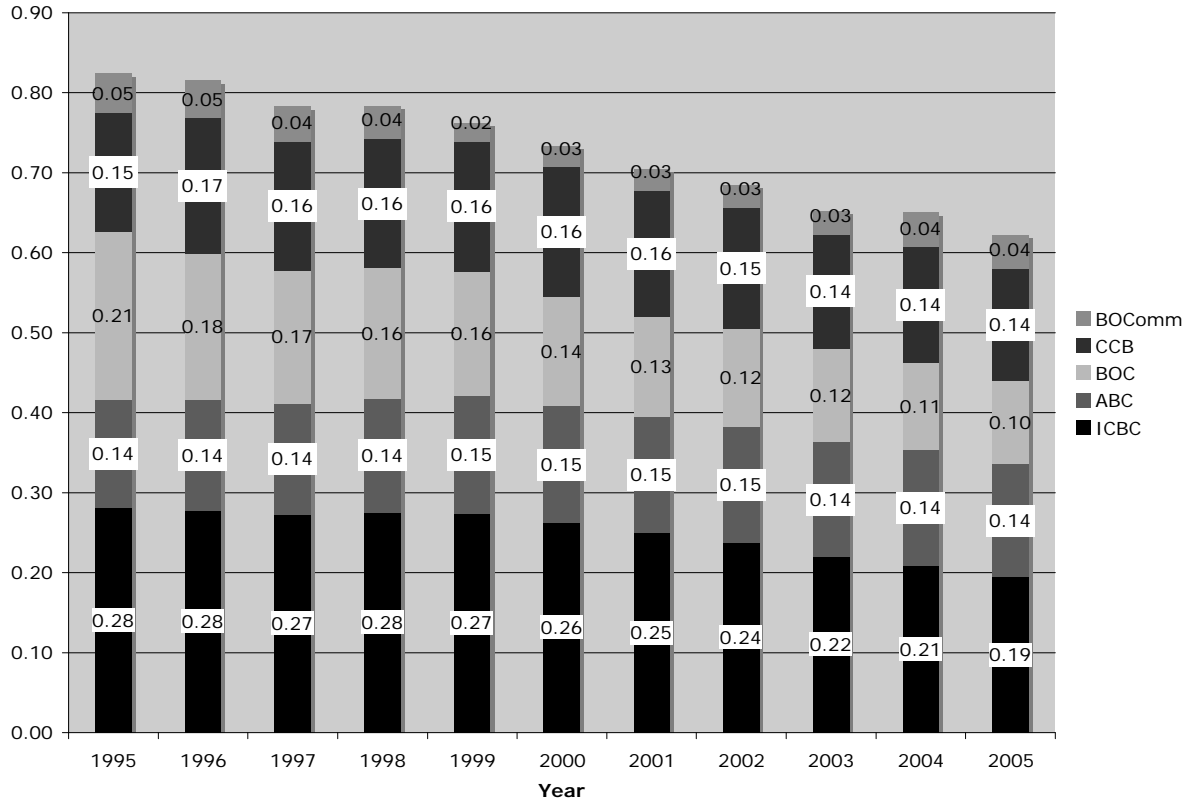


Figure 2: Big Five Share of Market Loans

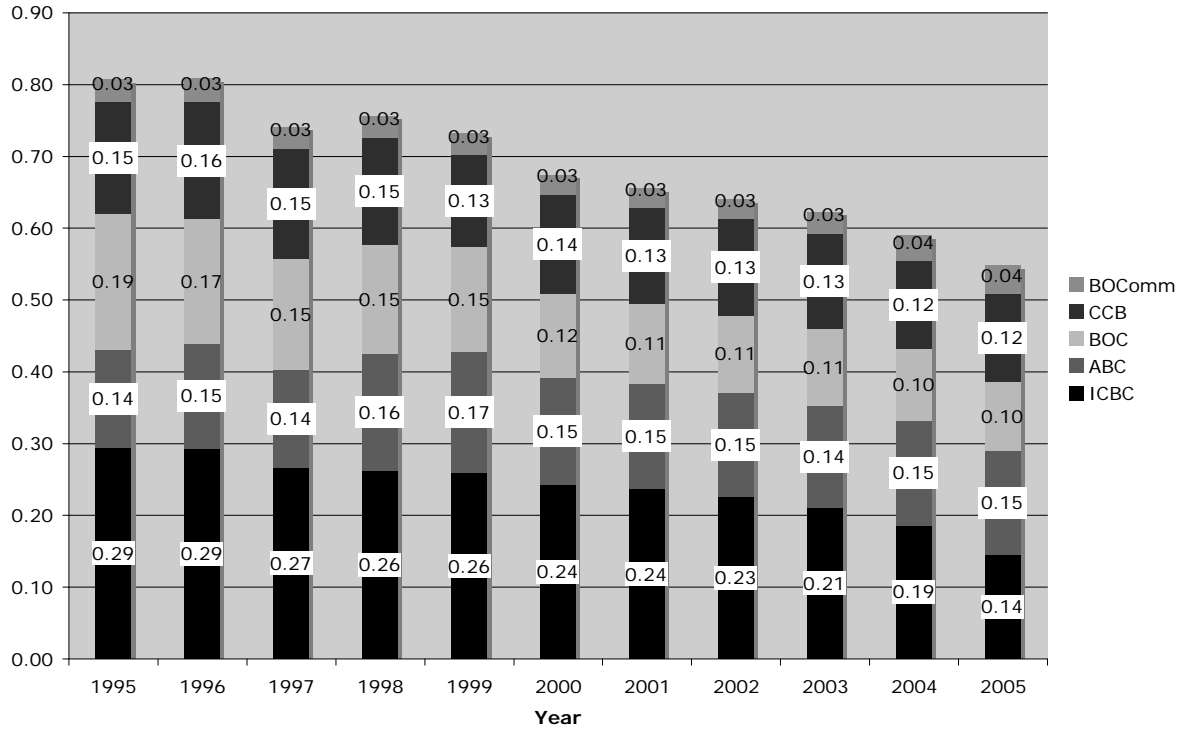
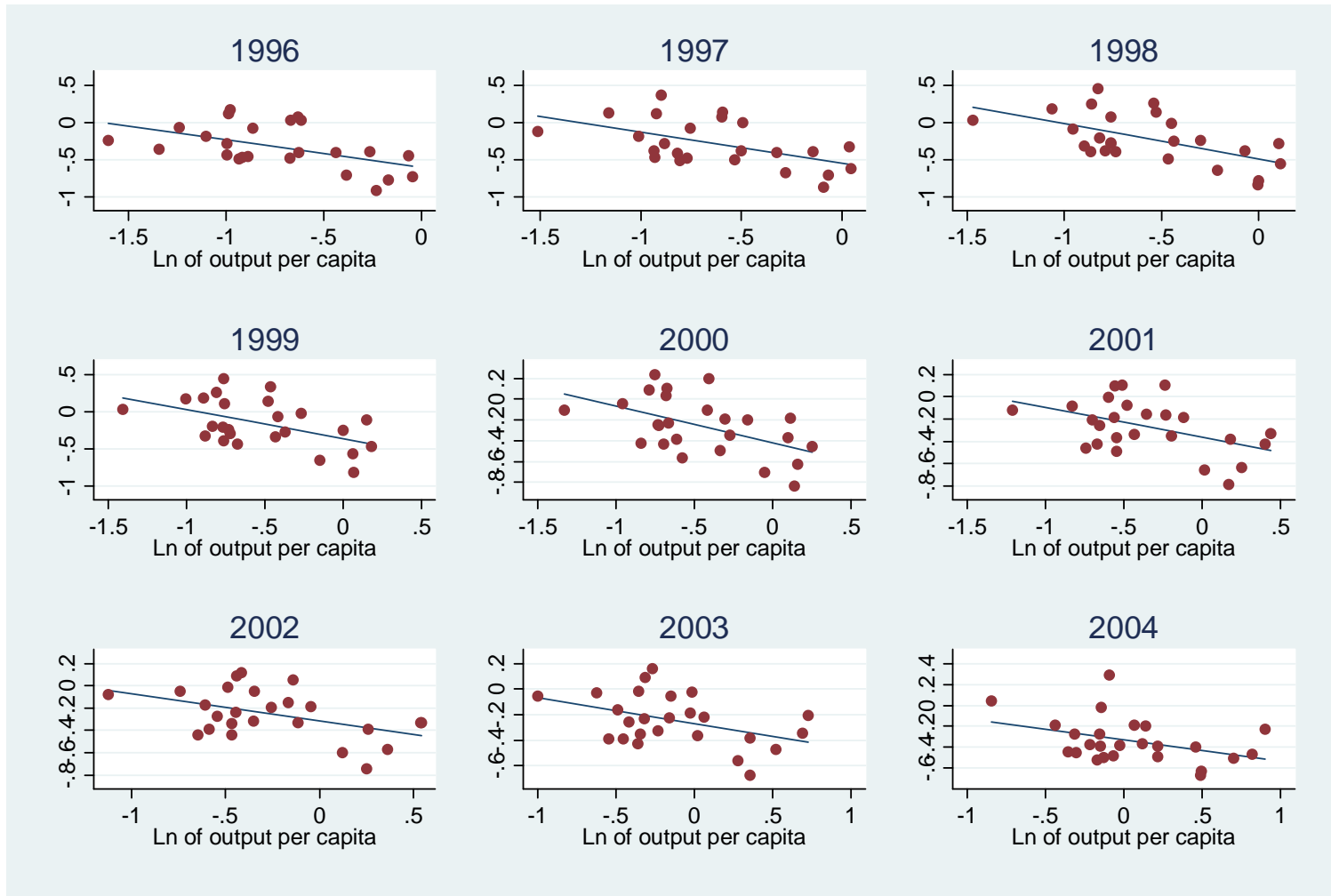




Figure 3: Financial Intermediation vs. Per Capita GDP



y-axis: ln of loans/GDP

Figure 4: Ratio of Loans to Deposits of the Big Five

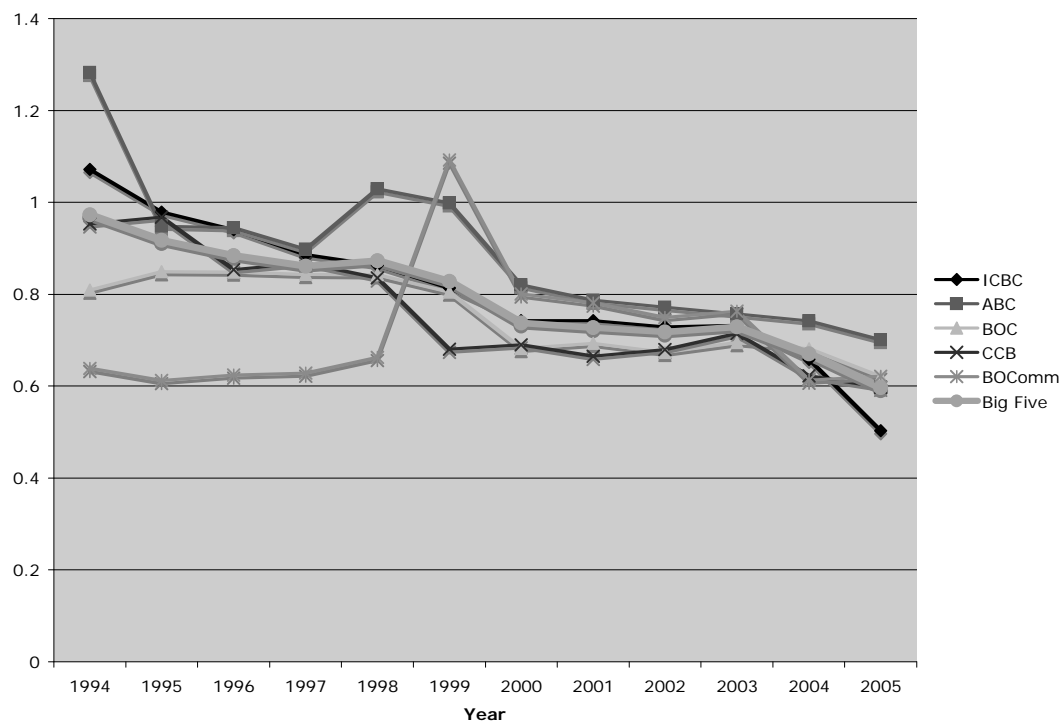


Table A1 Data and Sources		
Variable	Description	Source
Bank Variable		
<i>Loan</i>	bank loans per unit output; collected for ADBC, ABC, BOC, CCB, ICBC, BoComm, and RCCs.	<i>China Almanac of Banking and Finance</i>
Bank Deposit	bank deposits per unit output; collected for ABC, BOC, CCB, ICBC, BoComm, and RCCs	<i>China Almanac of Banking and Finance</i>
Total Deposits	total deposits in province from all financial institutions	<i>China Almanac of Banking and Finance</i>
Provincial Fundamental Variables		
Ind. output	sum of industrial gross output value and construction gross output value	<i>China Statistical Yearbook</i>
Ind. growth	growth of the sum of industrial gross output value and construction gross output value	<i>China Statistical Yearbook</i>
Ind. share of output	(industrial gross output value + construction gross output value)/output	<i>China Statistical Yearbook</i>
Ag. output	agricultural gross output value	<i>China Statistical Yearbook</i>
Ag. share	1 - Ind. share of output	<i>China Statistical Yearbook</i>
Ln of output/capita	log of output per capita	Calculated from population ( <i>China Data Online</i> ) and GDP ( <i>China Data Online</i> )
Provincial Policy Variables		
Grain	grain production per unit output	<i>China Statistical Yearbook</i>
SOE gross output value	gross output value of state-owned industrial and construction firms	<i>China Statistical Yearbook</i>
SOE profitability	before tax profits of state-owned industrial and construction firms as share of total assets	<i>China Statistical Yearbook</i>
Notes: ADBC loans in 1997 are calculated as the average of 1996 and 1998. The same is true for IGOV and SOEY in 1994. Loans and deposits for BoComm were calculated from preceding and succeeding years for Jiangxi in 1999, 2000, 2002, and 2003, Hunan in 1999 and 2000, and Guizhou in 1999 and 2000.		

Table A2(i)--Summary Statistics (Mean across sample by province)

Province	Ind. ouput	Ind. share	Ind. growth	Ag. output	Ag. growth	Log of output/capita	Grain	SOE output	SOE profitability
	Economic Fundamentals						Policy variables		
Anhui	3144.814	0.759	-3.016	1286.301	-0.076	-0.817	1.117	444.041	0.015
Beijing	3848.693	0.955	-0.890	207.440	-0.054	0.631	0.119	1311.267	0.023
Chongqing	1519.087	0.864	-0.317	500.194	-0.044	-0.414	0.919	396.098	0.008
Fujian	4239.561	0.831	-2.339	1054.382	-0.083	-0.061	0.345	330.135	0.032
Gansu	1153.725	0.801	-1.299	370.188	-0.082	-1.030	0.985	610.974	0.005
Guangdong	16920.010	0.915	-1.361	1798.627	-0.075	0.252	0.241	369.712	0.031
Guangxi	1661.750	0.696	-1.598	993.195	-0.105	-0.861	0.873	435.161	0.011
Guizhou	925.757	0.728	-1.053	437.213	-0.070	-1.310	1.232	781.517	0.008
Hainan	285.624	0.565	-1.157	322.155	-0.103	-0.400	0.464	369.860	0.012
Hebei	5787.856	0.811	-1.834	1721.925	-0.115	-0.410	0.700	489.151	0.023
Heilongjiang	2858.105	0.818	-0.975	853.062	-0.089	-0.292	1.110	459.994	0.102
Henan	5627.167	0.776	-2.622	2123.269	-0.132	-0.735	1.012	391.152	0.017
Hubei	4548.237	0.825	-1.970	1278.402	-0.079	-0.540	0.803	635.349	0.017
Hunan	3152.589	0.745	-1.881	1401.451	-0.086	-0.718	0.999	477.163	0.008
Inner Mongolia	1409.139	0.737	-0.844	613.635	-0.114	-0.393	1.085	310.075	0.011
Jiangsu	16603.610	0.907	-3.845	1987.712	-0.064	0.059	0.516	389.052	0.020
Jiangxi	1700.175	0.721	-2.392	831.365	-0.076	-0.817	1.050	383.769	0.006
Jilin	2183.721	0.798	-0.986	715.705	-0.095	-0.375	1.436	636.731	0.014
Liaoning	6380.069	0.880	-1.185	1115.996	-0.101	-0.021	0.429	571.731	0.010
Ningxia	350.524	0.827	-0.855	90.446	-0.108	-0.673	1.106	832.081	0.004
Qinghai	265.975	0.826	-0.846	67.602	-0.072	-0.723	0.529	1067.458	0.006
Shaanxi	1854.052	0.815	-1.147	517.415	-0.090	-0.822	0.809	817.315	0.017
Shandong	13682.140	0.862	-4.363	2574.132	-0.098	-0.164	0.637	290.368	0.035
Shanghai	8158.950	0.977	-3.305	218.159	-0.052	1.017	0.063	570.192	0.039
Shanxi	2497.350	0.889	-1.385	364.158	-0.082	-0.638	0.657	995.984	0.014
Sichuan	4709.612	0.724	-0.096	1709.778	-0.071	-0.865	1.120	692.821	0.011
Tianjin	3509.698	0.960	-2.384	178.216	-0.096	0.408	0.156	991.950	0.018
Tibet	31.944	0.471	-0.365	49.875	-0.104	-0.916	0.947	576.563	0.021
Xinjiang	1156.201	0.729	-0.813	557.792	-0.098	-0.402	0.744	703.043	0.036
Yunnan	1654.746	0.755	-2.031	725.582	-0.110	-0.863	0.822	539.284	0.050
Zhejiang	12292.030	0.926	-3.604	1103.160	-0.067	0.175	0.320	243.673	0.029

Table A2(ii)--Summary Statistics (Mean across sample by province)

Province	Total deposits	ADBC/ABC	State banks	BOC	ICBC	CCB	ABC	BoComm	RCCs	
				Deposits						
Anhui	0.497	0.127	0.401	0.067	0.193	0.120	0.127	0.023	0.124	
Beijing	1.069	0.196	2.253	0.208	1.445	0.478	0.196	0.123	0.168	
Chongqing	0.695	0.174	0.600	0.090	0.266	0.178	0.174	0.069	0.143	
Fujian	0.496	0.114	0.386	0.078	0.165	0.134	0.114	0.011	0.078	
Gansu	0.787	0.220	0.795	0.064	0.407	0.281	0.220	0.041	0.187	
Guangdong	0.859	0.189	0.634	0.191	0.244	0.163	0.189	0.036	0.225	
Guangxi	0.621	0.191	0.555	0.067	0.261	0.180	0.191	0.045	0.124	
Guizhou	0.547	0.200	0.582	0.054	0.305	0.197	0.200	0.031	0.135	
Hainan	0.812	0.261	0.786	0.208	0.311	0.220	0.261	0.050	0.106	
Hebei	0.738	0.154	0.494	0.080	0.243	0.153	0.154	0.019	0.240	
Heilongjiang	0.704	0.146	0.535	0.076	0.270	0.142	0.146	0.049	0.072	
Henan	0.613	0.143	0.431	0.072	0.196	0.121	0.143	0.040	0.158	
Hubei	0.531	0.156	0.434	0.071	0.173	0.148	0.156	0.046	0.098	
Hunan	0.535	0.126	0.375	0.060	0.164	0.141	0.126	0.013	0.155	
Inner Mongolia	0.515	0.121	0.440	0.071	0.243	0.122	0.121	0.004	0.084	
Jiangsu	0.523	0.168	0.432	0.089	0.173	0.110	0.168	0.060	0.112	
Jiangxi	0.615	0.164	0.467	0.081	0.228	0.139	0.164	0.019	0.128	
Jilin	0.782	0.155	0.543	0.072	0.297	0.137	0.155	0.039	0.100	
Liaoning	0.816	0.136	0.499	0.090	0.221	0.128	0.136	0.062	0.117	
Ningxia	0.806	0.223	0.754	0.092	0.384	0.280	0.223	0.000	0.121	
Qinghai	0.601	0.195	0.750	0.076	0.362	0.318	0.195	0.000	0.157	
Shaanxi	0.889	0.196	0.687	0.117	0.306	0.228	0.196	0.037	0.183	
Shandong	0.514	0.117	0.324	0.062	0.146	0.091	0.117	0.026	0.145	
Shanghai	0.679	0.223	0.918	0.091	0.473	0.264	0.223	0.094	0.090	
Shanxi	0.945	0.205	0.751	0.149	0.401	0.177	0.205	0.024	0.247	
Sichuan	0.681	0.202	0.481	0.080	0.204	0.173	0.202	0.029	0.177	
Tianjin	0.693	0.210	0.748	0.129	0.404	0.164	0.210	0.050	0.135	
Tibet	0.407	0.741	0.490	0.177	0.000	0.332	0.741	0.000	0.000	
Xinjiang	0.672	0.201	0.812	0.192	0.343	0.242	0.201	0.032	0.066	
Yunnan	0.574	0.244	0.653	0.078	0.313	0.210	0.244	0.056	0.121	
Zhejiang	0.572	0.152	0.473	0.084	0.211	0.141	0.152	0.038	0.189	

Table A2(iii)--Summary Statistics (Mean across sample by province)

Province	ADBC/ABC	State banks	ADBC	BOC	ICBC	CCB	ABC	BoComm	RCCs
					Loans				
Anhui	0.234	0.315	0.086	0.039	0.134	0.069	0.098	0.011	0.082
Beijing	0.156	0.887	0.025	0.094	0.350	0.236	0.098	0.056	0.086
Chongqing	0.194	0.460	0.025	0.039	0.164	0.100	0.100	0.033	0.105
Fujian	0.104	0.293	0.009	0.051	0.099	0.077	0.073	0.006	0.053
Gansu	0.280	0.569	0.068	0.031	0.240	0.164	0.152	0.019	0.138
Guangdong	0.137	0.411	0.006	0.100	0.139	0.072	0.101	0.018	0.170
Guangxi	0.193	0.377	0.023	0.042	0.168	0.081	0.129	0.023	0.088
Guizhou	0.332	0.469	0.043	0.036	0.219	0.108	0.218	0.015	0.102
Hainan	0.343	0.558	0.029	0.096	0.217	0.112	0.241	0.035	0.061
Hebei	0.182	0.348	0.045	0.046	0.145	0.076	0.098	0.009	0.155
Heilongjiang	0.328	0.380	0.144	0.046	0.177	0.067	0.114	0.020	0.040
Henan	0.242	0.298	0.081	0.038	0.128	0.062	0.109	0.020	0.123
Hubei	0.239	0.338	0.079	0.044	0.145	0.072	0.109	0.025	0.058
Hunan	0.195	0.315	0.055	0.038	0.132	0.075	0.098	0.007	0.101
Inner Mongolia	0.243	0.411	0.090	0.042	0.177	0.096	0.101	0.003	0.055
Jiangsu	0.150	0.286	0.027	0.054	0.107	0.058	0.091	0.032	0.082
Jiangxi	0.246	0.418	0.076	0.048	0.188	0.087	0.117	0.008	0.083
Jilin	0.457	0.519	0.219	0.055	0.264	0.081	0.141	0.020	0.062
Liaoning	0.191	0.396	0.057	0.059	0.184	0.062	0.093	0.035	0.087
Ningxia	0.337	0.747	0.054	0.090	0.317	0.172	0.211	0.000	0.095
Qinghai	0.305	0.783	0.038	0.053	0.327	0.221	0.202	0.000	0.112
Shaanxi	0.248	0.543	0.054	0.060	0.231	0.124	0.141	0.020	0.133
Shandong	0.138	0.258	0.035	0.043	0.096	0.060	0.074	0.015	0.109
Shanghai	0.182	0.648	0.011	0.080	0.283	0.140	0.131	0.058	0.056
Shanxi	0.218	0.571	0.050	0.082	0.236	0.115	0.122	0.012	0.170
Sichuan	0.247	0.363	0.051	0.047	0.140	0.093	0.143	0.015	0.137
Tianjin	0.196	0.648	0.019	0.103	0.275	0.124	0.135	0.026	0.101
Tibet	0.469	0.371	0.000	0.170	0.000	0.121	0.368	0.000	0.000
Xinjiang	0.341	0.486	0.134	0.053	0.190	0.128	0.133	0.015	0.035
Yunnan	0.270	0.427	0.029	0.039	0.183	0.109	0.183	0.030	0.267
Zhejiang	0.136	0.342	0.010	0.059	0.123	0.084	0.097	0.020	0.139

Table A3—Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Economic Fundamentals					
Ind. output	463	4324.57	6452.30	2.41	47267.33
Ind. growth	432	0.00	0.00	-0.01	0.00
Ind. share	463	0.80	0.14	0.26	1.00
Ag. output	400	898.73	728.27	23.06	4056.60
Ag. growth	369	0.00	0.00	0.00	0.00
Log output/capita	453	-0.41	0.75	-2.10	1.74
Policy Variables					
GRAIN	465	0.75	0.59	0.01	3.30
SOEY	400	5240.96	2104.32	592.78	20270.44
SOEP	369	0.02	0.03	-0.03	0.25
Deposits					
Total deposits	339	0.67	0.17	0.08	1.23
ADBC/ABC deposits	339	0.20	0.11	0.02	0.88
State bank deposits	308	0.63	0.36	0.07	2.85
RCC deposits	356	0.14	0.07	0.01	0.48
BOC deposits	308	0.10	0.08	0.01	1.14
ICBC deposits	298	0.31	0.24	0.04	1.88
CCB deposits	339	0.19	0.09	0.02	0.60
ABC deposits	339	0.20	0.11	0.02	0.88
BoComm deposits	278	0.04	0.03	0.00	0.18
Loans					
ADBC/ABC loans	339	0.24	0.11	0.04	0.68
State bank loans	308	0.46	0.19	0.06	1.64
RCC loans	356	0.10	0.12	0.01	2.26
BOC loans	403	0.06	0.08	0.00	1.40
ICBC loans	404	0.19	0.14	0.00	0.56
CCB loans	432	0.10	0.08	0.00	0.41
ADBC loans	434	0.05	0.07	0.00	0.38
ABC loans	434	0.14	0.10	0.00	0.68
BoComm loans	403	0.02	0.02	0.00	0.10