THE POLITICAL ORIGIN AND FIRM-LEVEL CONSEQUENCES OF BANK PROLIFERATION IN CHINA

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This study is based on the doctoral dissertation titled “Building Markets within Authoritarian Institutions: The Political Economy of Banking Development in China,” which is selected as the award-winning entry for Export-Import Bank of India (India Exim Bank) BRICS Economic Research Annual Award (BRICS Award) 2020. The dissertation was written by Dr. Adam Yao Liu, currently Assistant Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore, under the supervision of Professor Jean Oi, Professor Stephen Haber and Professor Philip Lipscy. Dr. Liu received his doctoral degree in 2018 from the Stanford University, USA.

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EXECUTIVE SUMMARY

Despite their crucial role in economic development, financial systems remain small in most developing countries. Worse, scarce credit often ends up in the hands of powerful elites rather than entrepreneurial and productive individuals, which impedes growth. How can countries promote financial development? A standard solution often advocated by social scientists is limited government: there must, they say, be a set of strong political institutions—e.g., a separation of political power, an independent judiciary, and popular elections—to allow for free market entry and prevent resource capture by elites. Theoretically sound, limited government is often infeasible in practice. No government wants to limit its own power. Yet, without a limited government, the expectation of expropriation stifles the market. Herein lies a fundamental political challenge for economic development.

Post-Mao China, although still under one-party authoritarian rule, built the world's largest banking system, characterized by intense competition. The number of commercial banks grew exponentially in the reform era, and for some years, private firms have become the major recipients of bank loans and credit. What explains this development without a limited government? The answer argued in this paper is organizational spinoff. In lieu of a full-fledged market opening, Beijing opened up the banking market to local governments—much like a firm spinning off subsidiaries to increase internal competition and overall return to the whole firm. This particular development path made private financiers irrelevant in the market formation stage while also eliminating the state's concern over losing financial control to regime outsiders. Over time, private and foreign players entered the market subsequently but only as shareholders of the state-created spinoffs, because the risk of expropriation had been mitigated by intensified market competition.

It is posited that organizational spinoff allowed the Chinese state to simultaneously capture gains from increasing competition in the banking market and maintain political control over the market. In contrast to conventional wisdom, It is shown in particular that organizational spinoff has been conducive to private firm financing. To test this argument, both ethnographic and statistical methods are used. Key ideas and hypotheses advanced in the project are all based on interviews: fieldwork was conducted in six provinces in a total of 22 months. During fieldwork, a unique

spatial dataset was compiled that contains the universe of Chinese banks, credit unions and their branches established since the mid-1990s (N=223,444). Then the data is either merged or used jointly with one large-scale industry dataset (N=675,657), six nationally representative surveys of private firms covering the period 2000–2012, one original survey of firm managers, and one original survey experiment involving bankers.

This project makes a number of contributions to the study of political economy and contemporary Chinese politics. Substantively, it contributes to our understanding of how contract-intensive markets emerge, grow and function in the absence of strong political institutions that clearly and credibly demarcate and protect boundaries between the government and the market. Analytically, this research highlights the limits of modeling autocracies as unitary actors—e.g., "revenue-maximizing autocrats" or "stationary bandits"—and shows the utility of an organizational approach for studying autocracies and institutional changes within them. Methodologically, this work introduces the use of spatial and experimental approaches to the study of the political economy of finance. And finally, this research also makes the first attempt to systematically trace the evolution of China's formal banking system, the complexity of which has hitherto been masked by the simple term "state-owned," thereby enriching existing scholarship on policy making and central–local politics in reform China.

1. INTRODUCTION

Despite their crucial role in economic development, financial markets remain small in most developing countries.[1] Worse, scarce credit often ends up in the hands of powerful elites rather than entrepreneurial and productive individuals. How can financial development be promoted? A standard solution offered by social scientists is limited government: there must be a set of political institutions—e.g., a separation of political power, an independent judiciary, and popular elections—to support free-market competition and prevent resource capture by elites (Barth et al. 2006; Bordo & Rousseau 2006; Calomiris & Haber 2014; Haber & Perotti 2007; Keefer & Knack 1997).

Theoretically sound, limited government is mostly infeasible in practice; no government wants to limit its own power. In fact, arbitrarily imposing limited governments on countries will generate far worse economic outcomes (North et al. 2007). Nonetheless, the expectation of expropriation inevitably stifles market development. The core issue here is therefore a two-sided commitment problem: the state cannot credibly commit to non-expropriation, and the private financier cannot credibly commit to complying with state control after market entry. Herein lies a fundamental political dilemma for economic reform and market development.

Without any institution associated with a limited government, China built the world's largest banking market, one characterized by intense competition.[2] The number of commercial banks grew exponentially in the post-Mao era, cutting the market concentration ratio by more than one half (Lardy 2014), and private firms are increasingly replacing state-owned enterprises (SOEs) as the major recipients of bank loans and credit (ibid.). In 2015, domestic bank credit extended to the private sector exceeded 100% of GDP, putting China on an equal footing with the developed West—i.e., countries with long traditions of limited government.

If not a limited government, then what supported the rise and expansion of a competitive and increasingly inclusive banking market in China? The answer argued in this paper is organizational spinoff. Instead of a full-fledged market

[1] Since 1960, the average credit extended to the private sector in low-income countries has been only 12% of GDP, compared to 62% in high-income countries (World Bank data).

[2] China's total bank assets were the equivalent of 40% of global GDP in 2016.

opening, Beijing allowed local governments to set up local state banks (LSBs) by allocating charters and transferring some centrally owned financial resources—much like a firm spinning off subsidiaries to increase internal competition and thereby overall return for the firm. In essence, organizational spinoff unleashed a process of "embedded marketization": the state embedded market competition in existing political and bureaucratic institutions that incentivize its local agents to compete for superior economic outcomes but also constrain the ways in which they compete.

Organizational spinoff avoided the aforementioned commitment problem plaguing market formation: private financiers were made irrelevant, so the state did not need to make a credible commitment to them or worry about losing financial control. As the market took off, private and foreign investors entered subsequently as shareholders of the spinoffs, when capital mobility, market competition and political discipline jointly created a more secure property environment (Montinola et al. 1995).[3] Meanwhile, the state maintained and still maintains political control over all banks regardless of their changing shareholding structures.

To show that organizational spinoff has created a competitive market that eases private firms' access to finance in an authoritarian state, this standing draw from 65 months of fieldwork as well as a variety of data sources: an original spatial dataset that contains the universe of Chinese banks, credit unions and their branches (N=224,223); a large-scale industry census dataset (N=675,657); six nationally representative surveys of private firms (for the period 2000–2012); one original survey of firm managers; and one original survey experiment of bankers. Empirical analyses using these data present a major advancement over existing ones, which rely mostly on cross-national observational information.

This research has two broad implications for the study of political economy. First, it shows that limited government is not the only institutional foundation for market development; harnessing existing authoritarian institutions can achieve comparable outcomes (Oi 1999; Ang 2016). The key, as Douglas North puts it bluntly, is the incentive structure, "not the slavish imitation of western institutions" (North 2010, 159). Second, the paper raises a question in the spirit of Ronald Coase: Where is the boundary of government in market development? The findings of this research suggest that governments need not be just providers of market infrastructures but, with proper incentives and constraints, can be market players too—at least in the early stages of development.

[3]In authoritarian states, private businesses usually find powerful politicians and/or their families and friends to serve as boards of directors—e.g., sharing rents with them in exchange for protection of their property rights against the intrusions of other state actors (Haber 2003).

The paper proceeds as follows. Chapter 2 reviews the extant literature. Chapter 3 explains why and how the Chinese central state spun off a competitive banking market, ending its own monopoly. Chapter 4 discusses the authoritarian institutions that have largely preserved the banking market in the absence of a limited government. Chapter 5 leverages multiple data sources and various methods to show that competition among state banks eases private firms' access to finance. Chapter 6 concludes the paper.

2. THE LITERATURE

Financial development is indispensable for modern economic growth (Beck et al. 2000; Haber et al. 2008; King & Levine 2004; Schumpeter 1911): it contributes to factor accumulation, increases productivity, reduces inequality and breeds innovation (Banerjee et al. 2013; Becerra et al. 2012; Demirguc-Kunt & Levine 2009). A hallmark of financial development is how easily private firms can access financial resources, as greater external funding of private activity has been found to directly cause growth (Beck et al. 2000; King & Levine, 1993). This, however, is hard to achieve.

The key determinant of financial development is not economic but political: citizens' access to political rights strongly affects financial market structures and, in turn, the distribution of financial resources in society (Haber et al. 2008).[4] Authoritarian states tend to purposely keep the financial sector non-competitive in order to extract rents (Calomiris & Haber 2014; Menaldo 2015; North et al. 2008).[5] Without competitive pressures in the market, banks protected or directly owned by the state are more likely to support connected firms[6]—that is, to act as instruments of rent sharing and political reward rather than effective financial intermediaries (Khawaja & Mian 2005; Sapienza 2004).

The implication is clear: financial development requires getting politics right first. That means, according to the existing literature, institutionalizing credible limits on government power. Evidence for this claim comes from the cross-national regression literature (Barth et al. 2006; Bordo & Rousseau 2006; Keefer 2007; Quintyn & Verdier 2010) as well as carefully researched country case studies and comparative historical analyses (North & Weingast 1989; de Vries & van der Woude 1997; Stasavage 2003; Summerhill 2008; Calomiris & Haber 2014).

[4]To be sure, some scholars also propose "legal" and "cultural" factors to explain cross-country variation in financial development (e.g., LaPorta et al. 1997, 1998; Guiso et al., 2004). Yet, these remain far less convincing candidates for explaining in-country variations over time.

[5]They do it in a variety of ways: selling bank charters to a select group of financiers; restricting entry; limiting bank branches; keeping credit supply below market demand; and allowing privileged banks to increase leverage and risk. For example, immediately upon taking power in Spain in 1936, Francisco Franco issued a number of decrees restricting new bank entry and constraining the operation of existing banks (Tortella & Ruiz, 2013, 118–121).

[6]A common form of connection is to have the bank and the firm share some, if not all, directors.

However, with a "limited government" at its center, the literature apparently has little leverage when it comes to explaining the Chinese case. Consider the following facts: whereas one bank monopolized under Mao, more than 2,000 compete now; competition has become so intense that the market concentration ratio has become comparable to that of the U.S. (Lardy 2014); and, most importantly, the share of bank credit extended to the private sector has increased from less than one percent in the 1980s to over 50% in recent years. All of these changes happened without a limited government—in fact, without any core institutional feature of such a government.

The existing China-specific literature does not have much to offer either. In fact, the literature is divided. One strand is consistent with the comparative literature, holding that Chinese banks: offer value-destroying loans to SOEs "purposely and predictably" (Calomiris 2007; Walter & Howie 2011); respond more to political demands than to market signals (Ong 2012; Shih 2007); and provide little credit to the private sector, which has to rely on informal finance to grow (Tsai 2001). The other strand, however, sees fundamental change, arguing that although still under state control, the banking system has become increasingly competitive and much more helpful to the private sector than before (Lardy 2014; Laurenceson & Chai 2003; Stent 2017). Neither side, however, offers rigorous empirical evidence.

The major challenge for empirical research on Chinese banking is data. Thus far, no dataset allows researchers to systematically examine the firm-level impact of banking market development in the reform era. The data problem worsens when zoomed in on lower administrative levels. Even if fine-grained data did exist, its reliability would remain a serious concern. This research solves the traditional data challenges through meticulous fieldwork and by taking an innovative spatial and experimental approach.

3. SPINNING OFF A COMPETITIVE BANKING MARKET IN CHINA

Under Mao, China had no banking market but instead a mono-bank system typical of a planned economy (Lardy 1998, 61). The People's Bank of China (PBOC) monopolized and served merely as a cashier of the state, keeping national accounts and providing budgetary allocations to SOEs. This system ended in the late 1970s when economic reform began. Four commercial banks were created, with each entirely owned by the central government and operating as a monopoly in a separate market, such as foreign trade or agriculture. Known as the "Big 4," they made up the entire banking system. Although they were allowed in 1985 to gradually enter each other's business domains, competition was minimal if not negligible (Interview LN131120; Shirk 1993, 184).[7]

Fundamental transformation of the market only began in 1994.[8] Since then, the number of commercial banks in China has grown exponentially, reaching 2,214 by mid-2015.[9] Concomitant is the erosion of the central monopoly: the Big 4's market share dropped from 100% to 35% by mid-2016. By asset concentration ratio, the Chinese market has become even more competitive than that of the U.S. (Lardy 2014). The driver of change, however, was not on the demand side, as the existing literature would predict; there was no political change whatsoever that empowered non-state actors to make entry demands. Rather, it lay on the supply side: instead of a full-fledged market opening, the state *chose* to allow local governments to enter as new players.

In this study, this strategy of market development is termed as '*organizational spinoff'*. What the central state implemented was much akin to firms spinning off subsidiaries to increase internal competition and overall return. First, local governments did not simply receive central permission and then build banks from scratch; the center not only handed out charters, but also transferred part of its own financial assets, namely urban credit unions created by the Big 4,[10] to local governments, with which the latter organized commercial banks of their own.

[7]Banks were still dealing with specific local SOEs ties formed during the planned economy era.

[8]Annexure C of the Appendix discusses in detail what explains the timing of reform, i.e. why 1994.

[9]This figure includes small rural banks such as rural cooperative bank and township and village banks.

[10]Before 1994, different UCCs within a locality were managed separately by each one of the Big 4 banks. For a more detailed discussion, see Annexure E in the Appendix.

Second, it was not a simple split up of balance sheets; also involved was the replication of organizational structures and the transfer of human resources—all the newly created local state banks (LSBs) had to have the same organizational structure as the Big 4, with a party committee sitting at the top, and all had bankers from the Big 4 and even the central bank as their founding management teams.[11]

Organizational spinoff alone does not induce competition; also critical is a change in incentives for bankers. Though still first and foremost financial agents of the state rather than private entrepreneurs, Chinese bankers are incentivized to pursue market share as well as profitability. Unlike in the early years of economic reform, when their career advancement was still contingent on faithfully following government orders, now their promotions and monetary interests are explicitly tied to bank performance. Incentives are arguably strongest for bankers at LSBs, i.e., the new spinoffs, who hold their posts for much longer than bankers at the Big 4 or local officials.[12] With longer time horizons, these "stationary" LSB bankers are naturally more inclined to ensuring the healthy development of their banks than are "roving" local officials.[13]

With the incentives in place, intense competition followed. In the deposit market, LSBs have tried to raise their market share, i.e., to attract depositors away from the Big 4, often by raising deposit rates above the center's ceiling rates. The LSBs have also been aggressive in issuing wealth management products in recent years—a major part of what has been dubbed China's shadow banking system. In response, the Big 4 banks have also been much more active in attracting local deposits by assigning "deposit quotas" to all employees, regardless of their official responsibilities. In the loan market, competition is equally intense. With the rapid rise of LSBs, firms of various types can now bargain with their traditional lenders—local Big 4 branches—for cheaper loans and credit (Interview PJ16828).[14] This then forces the Big 4 to lower interest to maintain borrowers. Describing the intensity of local market competition, a banker from TZ, a mid-sized city in the South, suggested that with 35 banks clustered on a street of

[11]But like the case of corporate spinoff, the newly created LSBs are entirely independent from the parent organization, i.e., the center's Big 4.

[12]While almost all local officials and bureau heads are subject to cross-regional rotation, LSB managers are not, and they generally serve for much longer. The 39 LSB managers about whom information is genthered had an average tenure of 10 years; the longest had served for 18 years.

[13]Geng, Pang and Zhong (2016) find that contrary to the conventional wisdom that local officials are reshuffled every five years around the time of the party congress, in fact, the average tenure for city party secretaries is 3.6 years and for city mayors 3.2 years (years 2000–2010). Only around 13% of these officials started their jobs after party congresses, and only 20% of them ended their jobs around party congresses.

[14]Interview PJ16828. Although LSBs still cannot lend as much as SOCBs do, an SOE could threaten to transfer part of their borrowing from local SOCBs to LSBs for even lower interest. The LSBs are willing to charge lower interest because their first priority is to become big.

less than two kilometers, he “feels like [he is] working on Wall Street” (Interview TZ160717).

Some of the key rationales for organizational spinoff in Chinese banking are entirely comparable to those for corporate spinoff. For example, one motivation for the latter is to allow the parent firm to focus on core business. What the Chinese state was focusing on in the mid-1990s was preparing for an overhaul of the whole financial system, the key to which was to clean up the NPL[15]-ridden Big 4 and then get them listed in Hong Kong. Localities were, therefore, called upon to be in charge of part of the financial system during this process. Another rationale, also analogous to the corporate case, was to identify and appreciate undervalued assets. Spinning off separate firms (new banks) allowed investors to more accurately value assets and make selective investments. For instance, private and foreign investors immediately began to hold shares in profitable LSBs, and only later did they hold shares in the reforming Big 4.

The spinoff process was planned out carefully rather than done in a one-shot, ad hoc fashion. In 1994, only major cities and special economic zones were given bank charters. Two years later, the State Council rolled out the policy to other prefecture-level cities across the country.[16] In yet another two years, the center declared that LSBs with sufficient high-quality assets could set up branches in other cities within their home provinces (Zhu 2014). By 2005, LSBs were allowed to set up branches anywhere in the country, a privilege still contingent on asset and performance as assessed by the central state. **Figure 1** shows the overtime proliferation of major Chinese banks and the drop of the Big 4’s bank asset share.

Banking market development in rural areas followed the same spinoff strategy as in cities. Rural Credit Cooperatives (RCCs),[17] once under the control of the Agricultural Bank of China (one of the Big 4), had been consolidated since the mid-2000s through recapitalization and put into the hands of the provinces, giving rise to the rural commercial banks and rural cooperative banks. More recently, the center also, through preferential policies such as tax breaks, encouraged banks from urban areas to set up their own subsidiaries, known as township and village banks, in financially distressed rural areas, creating yet another layer of spinoffs.

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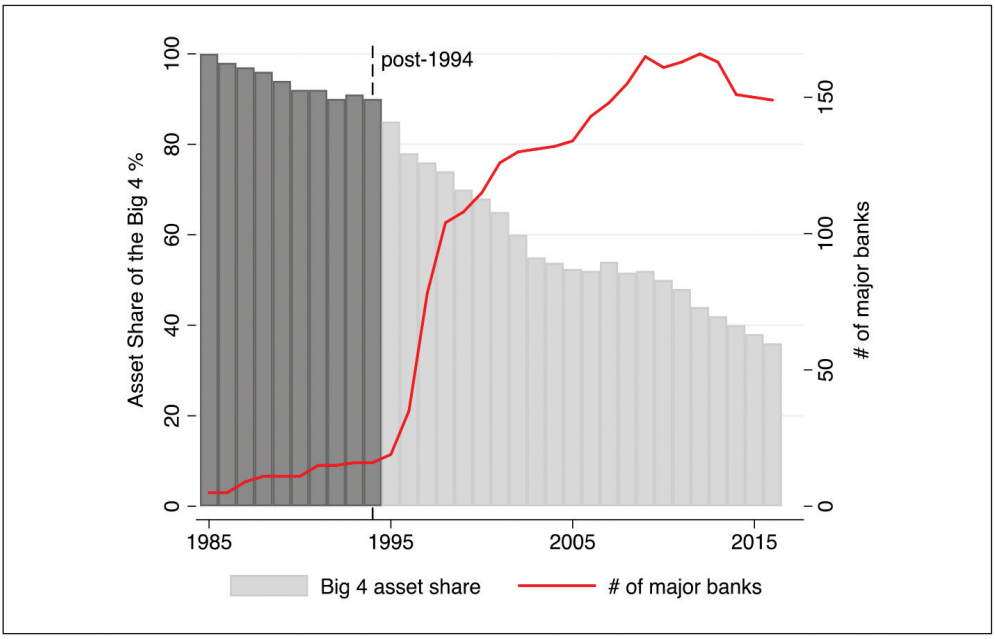
[15]Non-performing loan.

[16]In April, the center organized a national meeting on the development of LSBs in the large cities, concluding that the work was unfolding smoothly. Two months later, the center made the decision to roll out the policy nationally.

[17] Annexure F of the Appendix traces the history and different patterns of rural bank development under state guidance.

Figure 1: Bank Proliferation and Decline of Big 4 Asset Share



Source: WIND data and Chinese Banking Regulatory Commission

Although all banks have attracted private and foreign investors so as to grow more quickly and improve corporate governance in an increasingly competitive environment, the state retains absolute control.[18] This, however, does not necessarily mean the government directly holds majority shares. For example, the Bank of Shanghai, a city bank with over one trillion Chinese dollars in assets, is often thought of as a privatized bank, since the city's fiscal bureau has long ceased to be its majority shareholder. Yet, fieldwork reveals that 54% of the bank's shares are still in fact held by firms controlled by the city government in one way or another. The largest shareholder, Shanghai Alliance Investment, is a venture capital and private equity firm of the Shanghai government. Similarly, while the CEO of Pudong Bank is a Taiwanese recommended by Citibank, Pudong's largest shareholder, the CEO's appointment still needed to be vetted by the local party organization department and further approved by the central state.[19]

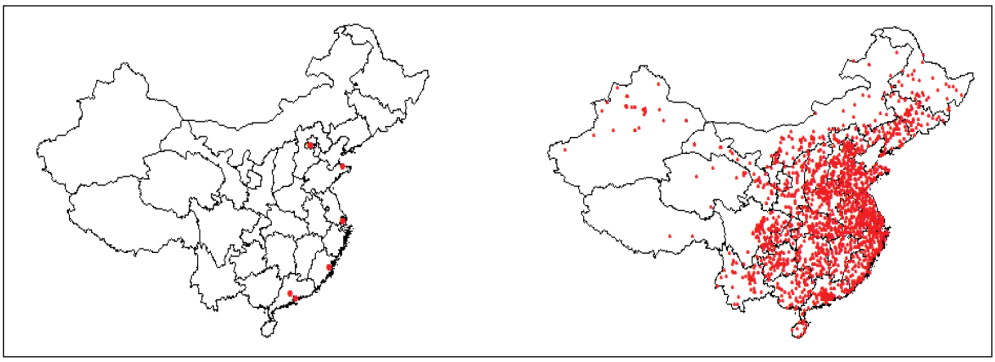
[18]Of the over 2,000 banks established since 1994, only five are categorized as genuinely private by the China Banking Regulatory Commission (CBRC 2015).

[19]Pudong Development Bank is a large joint-equity bank operating nationally, so the CBRC has to approve. Smaller banks need not always seek central approval in personnel appointments, other than the approval of the local party state. But, they still need to "*baobei*" with the center, i.e., let the center know. And of course, the center retains the right to reject.

In summary, with the center, provinces and cities controlling their own set of banks, a diverse and competitive banking system mirroring the political hierarchy of the Chinese state appeared through organizational spinoff. Yet, spinning off is not spinning away. Unlike the corporate case, where the parent firm holds shares in the spinoffs, the central state does not hold shares in LSBs but does maintain ultimate political control over them via the party's organizational apparatus. While in fierce competition, every single bank is held ultimately accountable not only to their shareholders, but to the parent organization, i.e., the central state. **Figure 2** below maps out the increase in bank headquarters across the country since 1994.[20]

Figure 2: Bank Headquarters

1994(n=14) 2015 (n=2,214)



Source: China Banking Regulatory Commission

It is worth emphasizing that through organizational spinoff, bank charters were given to the *institution* of local government, *not* the individuals sitting in them. Local officials are not given—and they cannot hold—shares in LSBs, and their duty to oversee local bank operation terminates when they leave office, along with other privileges attached to the office. This means that China's banking market development is not a story of political nepotism or crony capitalism, let alone the selling off of state-owned assets.

[20]Table 1 in the Appendix provides a detailed overview of the banking system structure.

4. PRESERVING MARKET WITH AUTHORITARIAN INSTITUTIONS

Organizational spinoff alone does not produce market competition; banks can simply serve as fiscal agents of different governments.[21] Moreover, even in free markets without state intervention, it is not necessarily the case that market players will compete at margins that are socially effective; they must not compete by threatening or killing each other.[22]

What preserves the banking market in authoritarian China? Two sets of institutions tie localities' grabbing hands and motivate their helping hands. The first set disciplines and the second incentivizes. While some of these institutions are specifically designed for managing and structuring the banking market, most are deeply embedded in existing political institutions that appeared in post-Mao China.

Discipline

Discipline hinges on the power of the central state and the institutions it created to structure the banking market and control all agents of the state. First, the center maintains oversight of the entire banking system and decides the pattern and pace of banking market development, as discussed in the previous chapter. Organizational spinoff is not financial decentralization, because local autonomy is highly limited. Localities cannot issue new bank charters, nor can they prohibit outside entry. This largely eliminates protectionism, which is a common concern in other formal federal systems (Rodden & Rose-Ackerman 1997; Xu 2008). Moreover, bank expansion of any kind requires central approval: even if a bank plans to set up new branches within its own city, it still needs approval from the China Banking Regulatory Commission (CBRC), a central agency.

Second, the center punishes bad performers. Localities do not obtain a bank charter once and forever; the center retains the ability to *revoke* charters. For example, when there was a run on Hainan Province Bank in 1998—after the

[21]For example, in Diaz's Mexico, while the dictator allowed state governments to run their own banks, a competitive banking market did not arise; banks were busy lending mostly to firms owned by the bank directors themselves.

[22]When Douglas North asked a Russian banker how banks competed with each other in the "wonderful world of free market" in post-Soviet Russia, the banker responded: "We compete by killing each other." Douglas North, speech at the Federal Communication Commission, June 30, 2003.

collapse of the local real estate sector, where the government had directed most of its bank's lending—Beijing immediately revoked the bank's charter.[23] While the center undertook a costly clean-up, the cost to Hainan was more exorbitant: for the next 17 years, the province had no bank of its own.[24] Punishment by the parent organization, the central state, is a Damoclean sword above local heads.

Third, also disciplining local governments is the party's nomenclature system. Whereas the existing China literature tends to focus on how it incentivizes officials to compete for faster development (Montinola et al. 1995; Oi 1992, 1999; Qian & Weingast 1997), it has not stressed sufficiently that the same system also disciplines and punishes. Expropriation of banks can lead to local financial instability, something Beijing has constantly warned against.[25] While local officials would not be held directly responsible for a bank's rising NPL, they certainly would if depositors took to the street. Anecdotal evidence suggests that the Hainan Bank crisis cost the provincial governor an opportunity for promotion (Interview FH161220).

Incentives

Why don't the spinoff banks turn into ATM machines of local governments, given that the latter are their political bosses? The answer lies in interjurisdictional economic competition, which not only binds localities' grabbing hands, as the existing literature argues, but also unleashes the helping hand that promotes local bank competition.

Local officials are also incentivized to support banking market development. In addition to competition for bank investors, interjurisdictional competition also quickly emerged. While LSBs initially all relied on local governments as their primary shareholders, they have to attract new investors—private and foreign—to survive and compete with the Big 4.[26] Consistent with the market-preserving federalism literature (Blanchard & Shleifer, 2001; Montinola et al. 1995; Whiting 2001), inter-bank and interjurisdictional competition for mobile capital deters arbitrary government expropriation.[27] What that literature does not explain, however, is the rise of the market in the first place. If there were no market, nothing would need to be preserved (Ang 2016). In China, the "Tiebout

[23]One of the center's Big 4, the Industry and Commerce Bank of China, took care of paying Hainan Bank's depositors.

[24]Similarly, the inability to pay depositors also cost the city government of Shantou its charter for 10 years.

[25]James Stent made the point, after working inside China's banking system for 12 years, that the central government of China is obsessed with risk control in the banking system.

[26]Table 2 in the Appendix provides some examples of foreign shareholders in some LSBs.

[27]Interview LN16828.

condition," i.e., factory mobility, is the outcome of market formation and reform, not the precondition for it (Xu 2008, 30).

Interjurisdictional competition also goes beyond attracting new bank shareholders. Local governments not only are interested in growing their own banks, but are incentivized to be equally enthusiastic—if not more so—in getting new banks to enter their jurisdictions. There is none of the beggar-thy-neighbor approach commonly associated with decentralization (Poncet 2003, 2005; Wong 2012), only invite-thy-neighbor. For example, in the city of SZ, the local government has set up a special fund for rewarding each new branch (2 million RMB) established by banks from outside the city (Interview SZ13313).[28] The reason is straightforward: local officials have no interest in turning their LSBs into local monopolies because that is impossible to achieve during their short tenure (two to three years), and more importantly, new entry means new sources of lending for development. This helps both GDP growth and taxation, regardless of what is important for officials' career advancement (e.g., Li and Zhou 2005; Lü and Landry 2014). New bank entry is often accompanied by a "strategic agreement" between the local government and the entrant, with the latter promising to issue a certain amount of credit in the locality in a specified number of years.

Yet, this should not be taken as a proxy for expropriation; other than stipulating the amount of lending, these agreements never specify the recipients of credit.[29] In fact, the targeted recipients are usually private entrepreneurs that are still financially constrained.

Central Expropriation?

The set of within-organization, market-preserving institutions described above has one built-in limit: Nothing constrains the parent organization, the central state.[30] Nevertheless, so far there has been no clear evidence for central expropriation.[31] What explains the center's self-discipline? Expropriation is also costly for it. Despite the delegation of some political and economic responsibilities to localities,

[28]This practice is quite common, though the amount of the reward varies.

[29]Some might point to mounting local government debt as a symptom of expropriation of local banks. It is not expropriation in the usual sense of the term, i.e. borrowing without paying. When governments borrow from banks through their financing vehicles, they still have to go through the usual business procedure. This is where land finance comes in—governments could use land that they control to borrow. This is a particular advantage governments have vis-à-vis other borrowers.

[30]The Big 4 has substantial foreign investment too, and they are all listed in the Hong Kong stock market.

[31]The implementation of the stimulus package in 2008 is an exception, which is described latter. In general, the central state has paid close attention to financial stability since the late 1990s, particularly after the costly recapitalization of the Big 4. More recently, the Xi administration has elevated the importance of ensuring financial stability to national strategic level.

China remains firmly a unitary state. A failing banking system is in the end a central problem.[32] As the banking market has grown and become much more sophisticated, the central state has become "obsessed with controlling banking risk" (Stent 2017, 13). Further, like local governments, the center too worries about alienating private and foreign investors, as negative market signals can quickly ripple through the banking system following a clear act of expropriation.

Some might point to the state's massive intervention into the banking system in 2008 as a case of expropriation. That popular perception is incorrect. Intervention is not expropriation. In fact, the center's ability to forcefully intervene at strategic junctures to stabilize the macro-economy is a defining feature of this "statist" market, which emerged from organizational spinoff rather than a full-fledged market opening. In normal times, the state enjoys increasing efficiency gains from competition among banks controlled by its own agents. But in times of crisis, the state pulls the strings, ignores the market, and coordinates among all of its agents to fend off regime-threatening upheaval. If the banks were in private hands, Beijing would not have that policy option, as it did in 2008.

Chapters 3 and 4 are summarized with a quote from a veteran American banker who has worked inside the senior management team of two Chinese banks for 13 years. Describing the "day-and-night" change and some of the fundamental characteristics of the current Chinese banking system, the banker said:

Chinese banks are neither wholly a creature of the market, nor wholly an agency of the state. They compete intensely for market share and profitability, do not have the bureaucratic cultures one expects to find in government organizations… But they are viewed by the state ultimately in an instrumental fashion…the state wants to have its cake and eat it too—realize the efficiency of market-driven, competitive management, while at the same time retaining ultimate control of the banking sector and guiding bank operations at the macro level in support of broad economic policy." (Stent 2017, 20)

[32]Recapitalization of the Big 4 in the mid-1990s is the case in point. Every such act will be costly for the center, even if the costs could be distributed across the population, e.g. through inflationary tactics, it still endangers political stability.

5. MARKET DEVELOPMENT WITHOUT LIMITED GOVERNMENT: EMPIRICAL TESTS

Organizational spinoff produced a banking system with two fundamental features: increasing market competition *and* continued state control. Both have empirical implications for the allocation of capital in China. On the one hand, increasing competition will pressure state banks to improve their performance and to expand their market by seeking out previously underserved but more efficient users of capital, i.e., private firms.[33] On the other hand, large, politically powerful SOEs should be much less affected in an still authoritarian political context. Two sets of hypotheses follow:

Hypothesis 1: Bank competition facilitates the development of private firms:

(a) It increases their access to external finance.

(b) It reduces their borrowing cost.

(c) It reduces their reliance on informal finance.

Hypothesis 2: Increasing bank competition hardens the budget constraints on local SOEs, yet the effect should be much smaller for large SOEs.

Let us start the empirical analyses with some qualitative data: words from Chinese borrowers and lenders. In brief, their comments suggest that private firms' access to finance will improve under increasing bank competition.[34] Indeed, some SOEs have felt hardening financial constraints as the banking competition intensifies. But the effect should be smaller for large SOEs supported and protected by the state. Consider first these comments from the demand side:

A private enterprise owner:

> "Now there are more banks in the city, our bargaining power has certainly increased; we could borrow more from more sources and get cheaper deals." (Interview PJ16828)

[33]While in the existing literature, increased competition and improved efficiency are usually associated with private and foreign bank entry, there is no reason to assume that diversifying the set of government banks, or "spinning off," would not yield similar or even identical results (McMillan, 1997).

[34]This is in line with the cross-national evidence that bank competition reduces the lending corruption facing private firms (Barth et al. 2009).

A city SOE manager:

> "Everyone talks about the need to improve finance for private firms. We have problems too! Because of the market is getting more competitive, banks are much more prudent than before in lending to SOEs." (Interview GX150702) [35]

Another province SOE manager:

> "State banks are not philanthropic institutions anymore…they compete fiercely and care about returns on their investment. It's true that many private firms still face financing problems, but many SOEs face the same challenge too." (Interview BJ150117)

Compare with comments from the supply side:

A local "Big 4" manager:

> "Private firms usually are small…they are not poised to bargain with banks. Yet, if there are more banks set up in a locality, then we will worry about our market share and start lending more to the private sector by lowering prices... But competition might have small effects on large SOEs…" (Interview JZ161015).

An LSB manager:

> "Lending to private firms is of course riskier and costlier than lending to SOEs. In a concentrated market, say if there's just us, we will charge higher interests on the private firms. However, with increasing competition, we, including the Big 4, all seek out new customers… private firms should definitely benefit" (Interview HL161015).

Finally, consider also the following three pieces of descriptive information that provide direct support for the comments above. The data are mostly from surveys of private firm managers and bankers, both conducted in early 2017. The firm survey was administrated through a marketing research company in China, and the banker survey was done through personal connections built up during fieldwork.

First, are Chinese banks really competing with one another or are they still

[35] Whereas journalists' accounts all focus on China's small private firms and report about their financing challenges, local SOEs also increasingly face similar challenges, more so than when there was minimal competition in the banking system.

primarily acting as fiscal agents for varying levels of the state? In other words, how intense is competition in the banking market? When directly asked this question, almost every banker chose to either “strongly agree” or “agree” with the statement: “China’s banking industry is extremely competitive.”

Second, if bank competition exists and is intense, does it benefit private firms? When asked this question, an overwhelming majority of private firm managers gave positive responses. **Table 2** shows the distribution of all the answers.

Table 1: Bankers Evaluate Their Industry as “Extremely Competitive”

Choices	Is competition extremely competitive?	
	No. of Respondents	Percentage
Strongly agree	160	**57.14**%
Agree	112	**40**%
Unsure	0	0%
Disagree	8	2.8%
Strongly disagree	0	0%

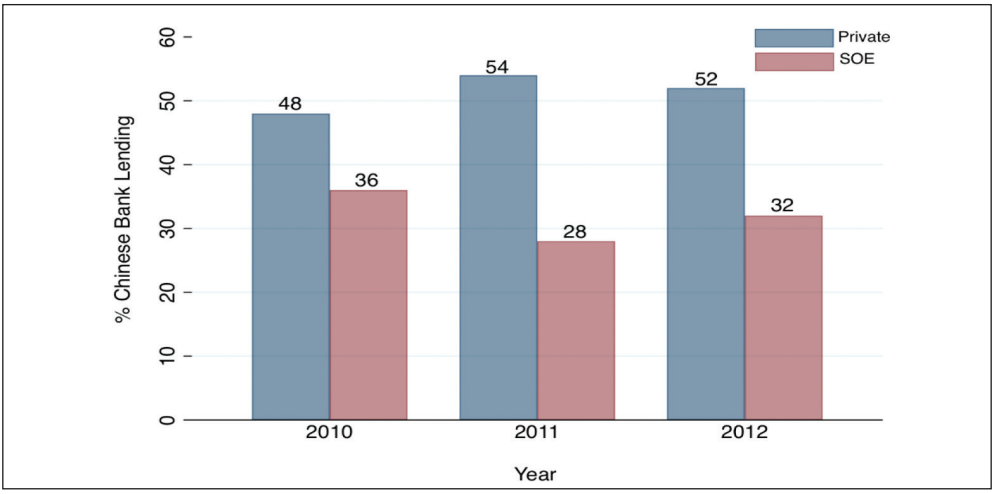
Note: Firm managers were drawn from a nationally representative sample via a marketing research company in China; N=280.

Table 2: Bank Competition Reduces Private Firms’ Financial Constraints

Choices	Has bank competition helped?	
	No. of Respondents	Percentage
Strongly agree	56	**16.33**%
Agree	253	**73.76**%
Unsure	12	3.5%
Disagree	2	0.58%
Strongly disagree	20	5.83%

Note: Firm managers were drawn from a nationally representative sample via a marketing research company in China; N=343.

Figure 3: Flow of Enterprise Loans by Ownership, 2010–2012



Source: China Banking Society (2011, 322; 2012, 369; 2013, 367–368). Also quoted in Lardy (2014, 105). Unfortunately, there are no official data for earlier years.

Last, regardless of what private firm managers say, is the private sector as a whole indeed improving its access to the state-dominated banking system? Official data concur: private businesses' share of total new bank lending in 2010, 2011 and 2012 was as high as 48%, 54% and 52%—persistently greater than the SOEs' share (Lardy 2014, 107). This debunks the myth that China's private sector gets little from the state-controlled banking system. As Lardy suggests (ibid.), it is possible that bank lending to the private sector has expanded considerably since the mid-1990s, precisely when what this study has termed organizational spinoff began.

5.1 Data and Measurement for Observational Analysis

To more rigorously test the arguments, this study employs a variety of data and methods. First, key ideas and hypotheses advanced in the paper are based on 22 months of fieldwork in six Chinese provinces. Second, using bank license information, during fieldwork a unique spatial dataset that contains the universe of Chinese banks, credit unions and their branches (N=224,223) is compiled. The data are then either merged or used jointly with one large-scale industry dataset (N=675,657), six nationally representative surveys of private firms (for the period 2000–2012), one original survey of firm managers (2017), and one original survey experiment of bankers (2016). These quantitative analyses present a major advancement over existing ones, which rely mostly on cross-

national observational data and which have thus far left the world's largest banking system outside of their regression analyses.

5.1.1 Datasets

Statistical tests require first solving a tremendous data challenge: most Chinese banks do not put their annual reports online. Even for those that do, information for their local branches cannot be found. For example, there is aggregate information for the Bank of China, but it is impossible to find data for each of BOC's more than 10,000 branches across the country. Yet, measuring the degree of bank competition at the local level requires information on every single bank branch. The lack of such information implies that conventional measures using banks' financial information, such as the H-Statistics and the Lerner Index, will not be viable measurement choices.

To solve this problem, a dataset that contains the geocoded information of all types of Chinese banks and their branches (N=224,233) to develop proxy measures for local bank competition is built. This is possible because when a bank sets up a branch, it has to obtain a license from the Commerce Bureau. The license records the opening date of the branch and the street address of the branch. Annexure D of the Appendix documents the data collection process.

The spatial approach provides an objective measure of banking market development in China. Unlike bank reports, which could well be subject to manipulation, bank licenses are far less likely to be manipulated. Further, we can use online maps (Google maps and Baidu maps) to validate whether a bank branch exists, as the license suggests. Many banks provide location information online, and no bank would post a wrong or fake address to mislead customers.

Estimating the firm-level effects of bank competition, the spatial data set is merged with the China Industry and Enterprise Dataset (CIED; N=657,675) 2001–2007, which covers the universe of "above-scale" state-owned and non-state-owned industrial firms[36]. The CIED contains some of the most important firm attributes, such as assets, liabilities, interest payments, number of employees, firm age, firm type, etc. The raw data were collected by the National Statistics Bureau.

[36]The current data are cross-sectional. "Above-scale" refers to firms that have an annual income ≥5 million RMB, a standard revised to 20 million RMB in 2011. The CIED, compiled by China's National Bureau of Statistics, provides the single most comprehensive data for studying the corporate behavior and performance of Chinese firms. The CIED contains two kinds of information: basic information about the enterprises (postal code, address, industry type, opening year, number of workers, etc.) and their financial information (current assets, accounts receivable, long-term investments, fixed assets, accumulated depreciation, intangible assets, current liabilities, etc.). Overall, there are about 130 indices for each firm.

In addition, six existing sets of stratified national survey data on private firm managers, covering the period of 2000–2012 are also used. About 97% of the firms in the survey datasets are small- and medium-sized private firms. The survey contains information on the personal attributes of the manager respondents, as well as firm attributes. To ensure representativeness and randomness, the surveys covered all 31 provinces and regions in China and used a standard stratification method.[37] The use of private firm manager surveys covering a span of 12 years provides concrete and more direct micro-level information for testing the effects of bank competition on firm finance. The existing surveys are supplemented by additional survey for done for the purpose of this research, which covers questions unaddressed in the existing ones.

Finally, to say that competition induces state banks to increase lending to the private sector, we need to show that bankers indeed change their behavior. To this end, a survey experiment is conducted with loan officers as well as other bankers who were acquainted during the fieldwork. While this experiment does not use a nationally representative sample, it does provide the first micro-level evidence in the political economy literature on how competition influences loan officers' lending and pricing decisions. Additionally, the experiment allows to tease out the causal effects of other firm-level attributes, such as political connection, in determining a firm's access to finance in an authoritarian political context.

5.1.2 Dependent Variables and Key Independent Variables

The hypotheses generate four dependent variables, the first two derived from CIED and the other two from the survey datasets. DV_1 is a firm's debt/asset ratio, which is used as a proxy for the firm's access to external finance. The assumption is that most firms in China still rely on the banking market rather than the equity market for external finance. DV_2 is the firm's borrowing cost, derived from its interest payments and total liabilities. Shifting to the survey datasets, DV_3 is a dummy variable indicating whether a firm is financially constrained; the survey asks directly of the firm manager whether his/her firm has capital need unfulfilled by the local financial market.[38] Finally, DV_4 indicates whether a firm borrows from the informal financial market. The DVs are formally summarized below:

[37]This dataset was compiled jointly by the State Administration for Industry and Commerce and the All-China Federation of Industry and Commerce.

[38]Each year (2002, 2004, 2006, 2008, 2010, 2012), the specific wording differs, but the substance remains the same. This measure is first used in Chong et al.'s paper (2013).

DV$_1$: Debt Ratio = total liability / total asset

DV$_2$: Interest Rate = interest payment / total liability

DV$_3$: Constraint = 1 if firm manager reports credit constraint; 0 otherwise

DV$_4$: Informal finance = 1 if firm needs to borrow from informal market, 0 otherwise

The key independent variable, bank competition, is measured in two ways. The first is a straightforward spatial variant of the Herfindahl–Hirschman index, capturing the probability of two randomly selected bank branches belonging to a different bank in a given locality. This measure is labelled "competition." The second is the percentage share of branches possessed by the three largest banks in a city. It is labelled as "concentration." In the following empirical tests,

$$\mathbf{IV_1}\text{Competition} = 1 - \sum_{i=1}^{N} {\pi_i}^2 = \sum_{i=1}^{N} \pi_i(1-\pi_i), \forall i = 1, \ldots, N$$

where "π" is the share of a branches of bank *i*, and

$$\mathbf{IV_2}\text{: Concentration} = \sum_{j=1}^{3} (\text{no. of branch}_j) / \sum_{n=1}^{N_i} (\text{no. of bank branch}_n)$$

where j=1…3 are the three largest banks

competition is used as the primary independent variable and concentration for robustness checks only. Formally,

The controls are a set of firm-level economic and political variables. The economic variables include such standard firm attributes as assets, firm age, number of employees, etc. The political variables are firm type based on firm ownership, firm registration status (in the CIED), and the political connections of the firm owner (in surveys). **Table 3** in the Appendix provides a detailed description of the controls.

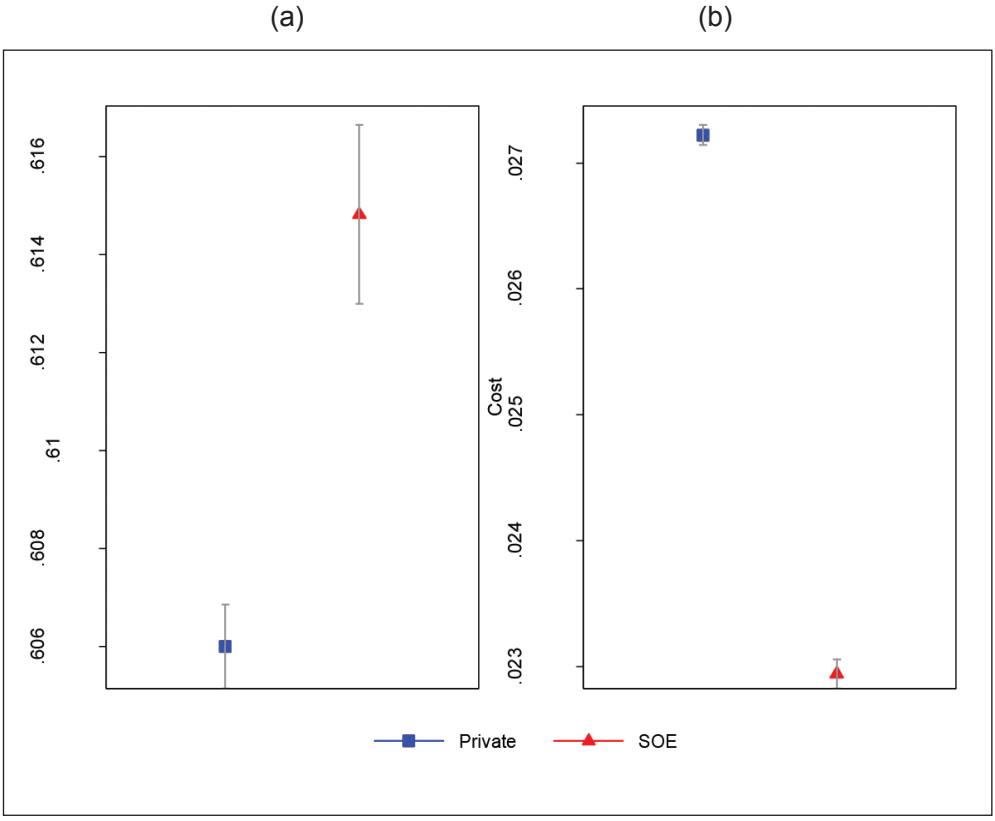
5.2 Observational Evidence

Consistent with the arguments made, competition among banks spun off by the Chinese state reduces private firms' financial constraints. Additionally, it is also found that in terms of borrowing cost, the effect is small for SOEs, especially ones registered as central SOEs, providing suggestive evidence for political support and protection.

5.2.1 Setting the Base Line

The analysis starts with a base-line comparison between the SOEs and private firms. Do SOEs have *greater* and *cheaper* access to banking resources than private firms? The answer is yes: SOEs on average are more indebted than private firms, but they also enjoy a lower cost of borrowing. **Figure 4(a)** shows the difference in the mean debt/asset ratio—the proxy for firms' access to banking resources—between SOEs and private firms, whereas **Figure 4(b)** shows the firms' interest rates (interest payment / total liability). Consistent with expectations, SOEs are more indebted and enjoy lower interests vis-à-vis private firms (source: CIED; N=675,657).

Figure 4: Financial Access and Cost of Access: SOEs vs. Private Firms



5.2.2 Changing the Base Line: The Effects of Competition in a Statist Market

How does increasing competition in the state-controlled market affect the base-line picture? This question is answered by exploiting first the CIED dataset and then six survey datasets for observational analyses. Following the observational analyses, the results are presented from the survey experiment involving bankers.

Breadth of Access

The following OLS regression is estimated to test the effect of banking competition on firms' access to finance.[39]

The dependent variable is debt/asset ratio, a proxy for access. Firm-level controls as well as industry and city fixed effects are incorporated. **Table 4** in the Appendix provides detailed information on the control variables. Note that in all regression tables to follow, columns that uses "concentration" as the alternative measure for robustness checks are included.[40]

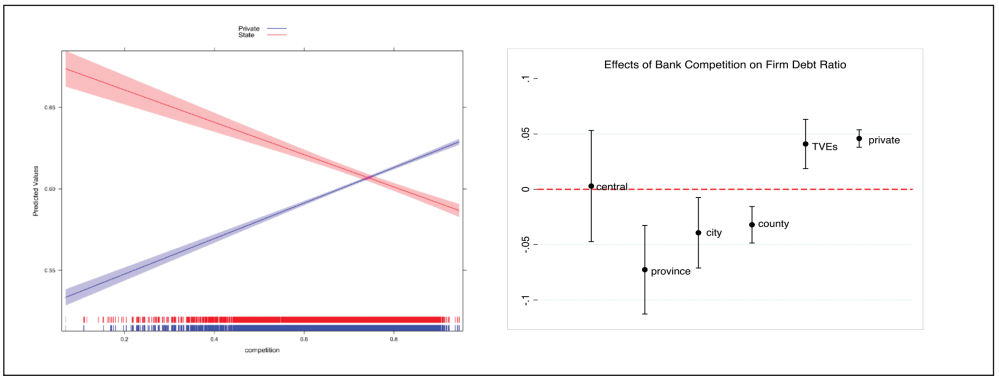
$$\mathrm{DV}_{it} = \beta_0 + \beta_1 \mathrm{Competition}_{it} * \mathrm{FirmType}_i + \sum_l \gamma_{itl} \mathrm{Controls}_{itl} + \sum_j \theta_j \mathrm{Industry}_j + \sum_k \emptyset_k \mathrm{Province}_k + \sum_t \delta_t \mathrm{Year}_t + \varepsilon_i$$

Consistent with the theoretical expectations, the conditional effects of bank competition differ for SOEs and private firms—i.e., they have opposite signs. Whereas increasing competition increases the private firms' debt/asset ratio, it lowers that of the SOEs. In less competitive localities, SOEs are more indebted than the private firms. Yet, this pattern disappears *and reverses* in the more competitive localities. **Figure 5** plots the conditional effects of competition. Switching the explanatory variable from competition to concentration also yields the expected results. All regression results are shown in **Table 4** and **Table 5** in the Appendix.

[39]The analysis is restricted to the 2000–07 period for two reasons. First, the bank branch dataset does not capture the massive withdrawal, closure and merging of the SOCBs since the late 1990s, particularly in the rural areas, which only ended around 2005 with all the SOCBs getting ready for IPOs in 2006. This prevents from calculating reliable measures of local bank competition for the pre-2005 period. Second, the post-2007 dataset is fraught with measurement errors, which have even prompted some economists to write a paper just on the problems of the post-2007 data (Brandt et al. 2014).

[40]In all specifications, concentration should have the opposite sign as competition.

Figure 5: Bank Competition Increases Private Firms' Access to Finance



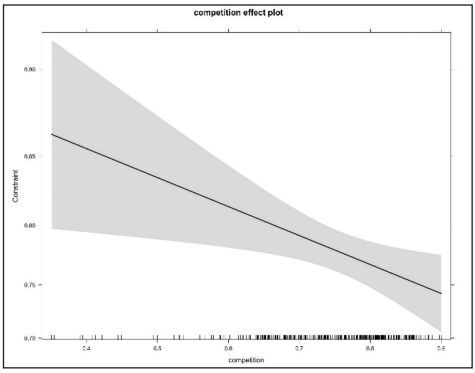
The current model specification does not capture the potential heterogeneity among different types of SOEs. To address this, the interaction term "Competition$_i$*FirmType$_i$" is substituted with "Competition$_i$*FirmType$_i$" "RegType" is another variable from CIED that distinguishes firms by their registration status (central SOE, provincial SOE, city SOE, county SOE, village and township enterprises and private firm). The pattern remains: SOEs in areas of greater bank competition have much smaller debt/asset ratios vis-à-vis their counterparts in less competitive localities. This holds true for central, provincial, city and county SOEs. In stark contrast, the *reverse* is true of private, township and village firms. The sample is also split using registration status and estimate the same specification for each type of firm separately. The results remain the same (right panel in **Figure 5**). Particularly noteworthy is that central SOEs are insensitive to competition, suggesting continued political support in a competitive market designed by the state.

Next, the effects of state bank competition on private firms' credit constraints is estimated by leveraging six nationally representative surveys conducted by the Chinese state, covering the period of 2001–2011. Each survey has questions framed in one way or another to find out whether a firm has an unfulfilled credit demand, i.e., whether the firm faced a credit constraint. A probit model is fit using DV_3 "constraint." As with the earlier specifications, the key controls are variables such as firm size and firm age.[41] Similarly, industry and province dummies are also incorporated to control for other unobservable heterogeneities. **Figure 6** plots the marginal effect of competition

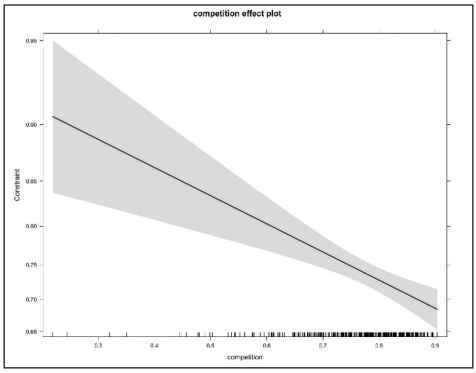
[41]A plethora of economics research suggests that smaller firms often have more limited access to formal financial support, which might be particularly true in China, where the financial market is still bank-centered (Beck & Demirgüç-Kunt, 2006; Kumar & Francisco 2005). Firm age is also taken care of because younger ones are more likely to be rationed in the loan market (Winker 1999).

for all six years. Key controls are variables such as firm size and firm age.[42] Similarly, industry and province dummies are also incorporated to control for other unobservable heterogeneities. **Figure 7** plots the marginal effect of competition for all six years.

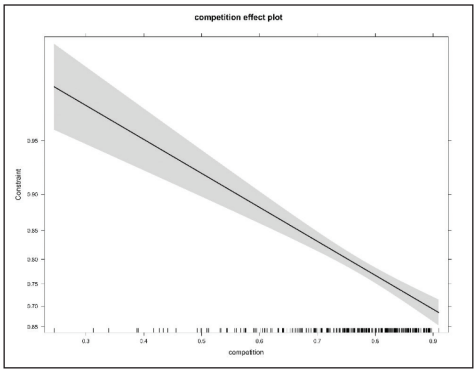
Figure 6: Marginal Effects of Competition on Constraint



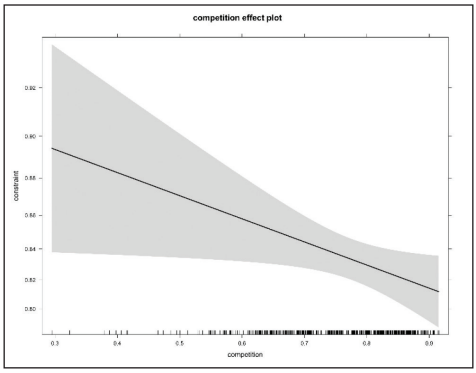
2001



2003

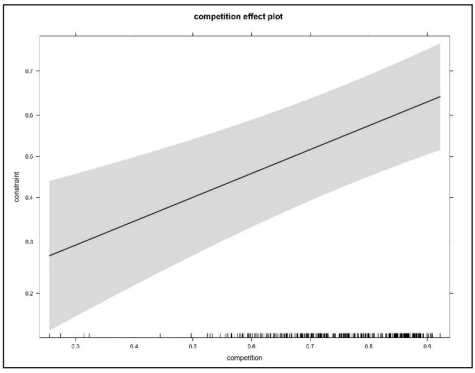


2005

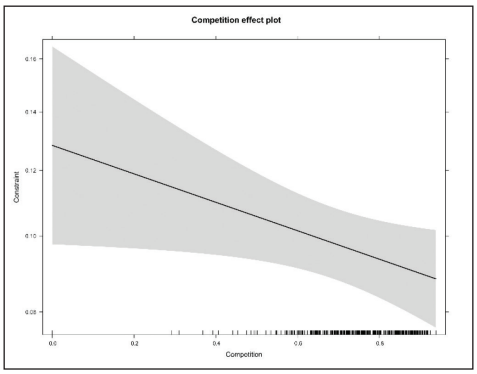


2007

[42]A plethora of economics research suggests that smaller firms often have more limited access to formal financial support, which might be particularly true in China where the financial market is still bank-centered (Beck and Demirgüç-Kunt, 2006; Kumar and Francisco 2005). Firm age is also taken care of because younger ones are more likely to be rationed in the loan market (Winker 1999).



2009



2011

Table 8-13 in the Appendix shows the full regression results. In general, when competition increases from the 25th to the 75th percentile, the probability of a firm manager/owner reporting that the bank is experiencing credit constraint *decreases* around eight percentage points, a result that remains strikingly similar for five years of the six.[43] Of particular importance, whether the firm manager/owner is politically connected[44] or the firm was a privatized SOE does not make a difference to the effects of competition. All private firms benefit.

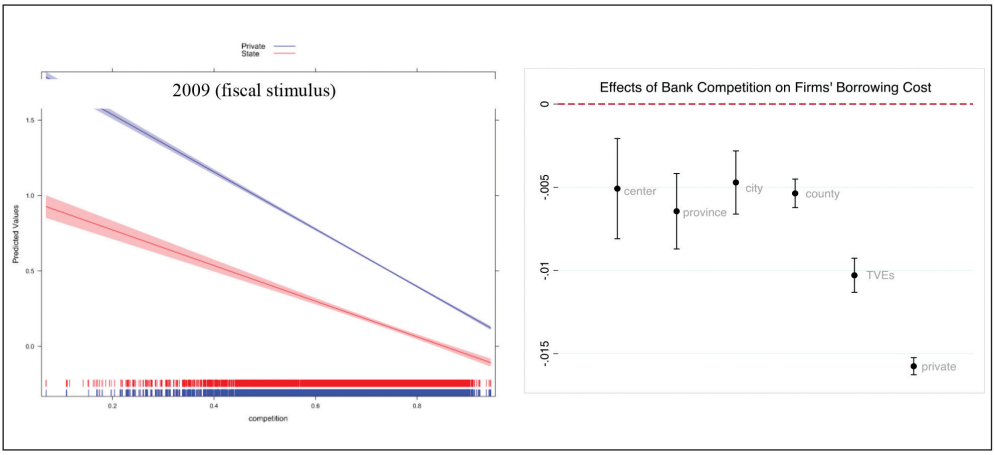
Cost of Access

The CIED is used again to estimate the effects of state bank competition on firms' borrowing costs; the national surveys have no information from which to estimate borrowing cost. The same regression specifications, as above, is used. Results are shown in **Table 5**. Consistent with interviews, private firms' borrowing cost decreases as the competition increases. Competition also brings down the cost for SOEs—but the effect is greater for the private firms. **Figure 8** plots the competition effect. **Table 11** in the Appendix shows the full regression results.

[43]The anomaly is 2008 (i.e., the 2009 survey), when the central state intervened forcefully in the banking system to coordinate all banks in supporting government projects and SOEs. This is entirely consistent with the paper's argument.

[44]This is measured in a couple of different ways: the manager's party membership and his/her participation in the local People's Congress or the local Chinese People's Political Consultative Conference (CPPCC).

Figure 7: Bank Competition and Firms' Borrowing Costs



To capture the potential heterogeneities among different types of SOEs, the subgroups of SOEs are examined using the seven-category firm registration variable. Results are shown in **Table 11** in the Appendix. The analysis indicates again that increasing bank competition has a greater impact on private firms, along with village enterprises and township enterprises—many of which should already have been privatized for the period that the data cover (Oi 1999).

5.2.3 Instrumental Variable Regressions

Like any observational analysis, endogeneity remains an inferential threat. Banks could flock to areas with more firms starving for credit.[45] To address the endogeneity problem, Chong et al. (2013) are followed and the average competition value of neighboring cities as an instrument for local competitiveness is used.[46] The average distance between Chinese cities is 80 km, so the transaction costs for firms, especially small- and medium-sized private firms, to engage in cross-city borrowing is exorbitant. Indeed, loan officers rarely receive such applications—and they are unwilling to process them when they do, given the high information costs.[47] That is, most firms do not engage in cross-border borrowing.

[45]Since the 2000s, LSBs have been allowed to set up branches outside their own cities, and some have even ventured to other provinces.

[46]Cheng et al.'s data capture only a part of China's banking system, i.e., those banks that put their branch location information online. The data don't include rural financial institutions at all.

[47]Interview HLD151207.

Yet a city's level of bank competition should be closely associated with that of its neighbors, not only because nearby cities are more likely to be similar in their level of economic development, but also because as competition increases, banks are more likely to set up branches in neighboring localities to attract new customers.[48] LSBs have been active in territorial expansion for two reasons. First, LSBs' incentive is to expand rapidly so they can be listed in the domestic stock markets.[49] Second, local governments welcome banks from adjacent localities to set up branches, as incoming LSBs provide a new source of lending.[50]

In sum, competition in neighboring cities should be closely associated with the local competition measure but not correlated with local firms' level of financial constraint, as many banks cross borders but most firms don't (in terms of borrowing and lending). This makes neighbors' average value a valid instrument. Following is the 2SLS estimating equations.

$$\mathrm{DV}_{it} = \beta_0 + \beta_1 \mathrm{Competition}_{it} * FirmType + \sum_l \gamma_{itl} \mathrm{Controls}_{itl} + \sum_j \theta_j \mathrm{Industry}_j + \sum_k \emptyset_k \mathrm{Province}_k + \sum_t \delta_t \mathrm{Year}_t + \varepsilon_i$$

$$\text{Where } \mathrm{Competition}_i = \partial_0 + \partial_1 \overline{\text{Neighbors's Competition}_i} + \sum_l \gamma_{itl} \mathrm{Controls}_{itl} + \sum_j \theta_j \mathrm{Industry}_j + \sum_k \emptyset_k \mathrm{Province}_k + \sum_t \delta_t \mathrm{Year}_t + \omega_i$$

Results confirm that state bank competition: reduces SOEs' debt/asset ratio but increases that of private firms; makes private firm managers less likely to say that they are financially constrained; and lowers the borrowing costs of private, village and township firms more than of upper-level SOEs. All results corroborate the earlier findings and are shown in the Appendix. Throughout, competition (and concentration) remains statistically significant at the 1% level. Diagnostic tests show that neighboring localities' competitiveness is a strong IV for a given locality's degree of bank competition. To further test the validity of the instrument, for each set of IV regressions, the strategy employed by Chong et al. (2013) is followed, using both the competition value and the concentration value of neighboring localities as instruments, rerunning the regressions, and failing to reject the null hypothesis of the over-identification restriction tests.

[48]This is more particularly true for LSBs than SOCBs, as SOCBs were present in every single Chinese city long before the rise of LSBs in 1994.

[49]Getting listed in either domestic stock markets or Hong Kong has been LSBs' top priority. In 2016 alone, eleven LSBs (including Jiangsu Bank, Hangzhou Bank, Chengdu Bank and Guiyang Bank) were getting ready for IPO.

[50]Interview PJ15202.

5.3 Micro-Level Evidence: Survey Experiment with Loan Officers

Do state banks indeed conform to market logics as competition increases among themselves? Do they roll back lending to SOEs and lend more to private firms under such circumstances? In the words of the head of Beijing Bank: "The more competitive the banking system, the higher the quality is required [of banks' services], the lower the borrowing cost will be for private enterprises."[51] This claim is tested, which is supported by the observational evidence above, experimentally.

The test takes the form of a conjoint survey experiment of loan officers. The conjoint experiment is a multidimensional choice-based design, where survey respondents are asked to choose/evaluate between two (or more) candidates (e.g., products, projects, politicians) with multiple attributes. The goal is to assess how each attribute affects the respondents' preferences for different items. The design is one widely used in marketing that is gaining increasing currency in political science (e.g., Bechtel & Scheve 2014; Hainmueller & Hopkins 2014; Hansen et al. 2014; Li & Zeng 2016; Umaña et al. 2014;). The experiment provides the first solid micro-level evidence on loan decision making in PRC China. It is also the first of its kind in the study of the political economy of finance. Moreover, as Li and Zeng (2016) point out, conjoint analysis is a particularly powerful research tool for studying autocracies, where respondents might be unwilling to share their true preferences. By choosing among different dimensions, the conjoint setup can to a large extent avoid the self-censorship when respondents' preferences are elicited directly, thus minimizing bias.

Loan approval is a highly technical choice decision. Therefore, unlike typical survey research and experimental survey work, this project will not draw from a representative sample of the national population. The technicality of the task—and thus the external validity of the experiment—requires surveying only loan officers from banks, or bank personnel who are knowledgeable about how loan approval works in general and how it works in China's political context in particular. Annexure H of the Appendix provides a brief description of the loan approval process in the Chinese context.

The loan officers for this experiment were selected from province-level SOCBs, city-level SOCBs, city-level LSBs as well as county-level LSBs (six banks in total). The research sites are three economically disparate provinces from the northeastern, northwestern and southern parts of China. The issue of sample size is discussed after going through the survey questions.

[51]Translation. See original text at money.163.com/15/0307/00/AK2KLA9000253B0H.html

A detailed description of the survey flow is provided in Annexure I of the Appendix. In short, respondents begin by reading an introductory text in which they learn about the nature and process of the survey. Then they complete four sets of choice tasks. For each set, the respondent is given brief descriptions of six attributes of two individual firms (Firm A and Firm B). Four of the attributes are political, and one attribute relates to firm performance. Other firm performance attributes that could influence lending and pricing are held constant (see Annexure E in the Appendix). The final attribute, our key variable of interest, relates to the local banking environment in which the firm operates.

The first attribute, "ownership," takes on two values, "SOE" and "private." This corresponds directly to the dummy variable "firm type" used in previous regressions. The second attribute is "connection," which specifies whether a firm owner/manager is a former local government official, a current local NPC/CPPCC member or neither.[52] The third attribute, "sales growth," captures firm performance. The fourth, a key attribute of interest, measures the degree of competitiveness in each firm's local banking market. The final two attributes, "taxation" and "employment," speak to the strategic value of the firms in the eyes of their local governments; it is still often assumed that local governments will help firms that are significant for local taxation and employment to secure easier and cheaper banking resources.

Table 3: Sample Task for the Survey Experiment

Attributes	Firm A	Firm B
Ownership	{SOE}{private}	…
Connection	{NPC/CPPCC}{former gov't official}{none}	…
Sales Growth	{fast} {slow}	…
Banking Market	{intense competition, many LSBs} {lack of competition, Big 4 dominate}	…
Taxation	{big} {small}	…
Employment	{big} {small}	…

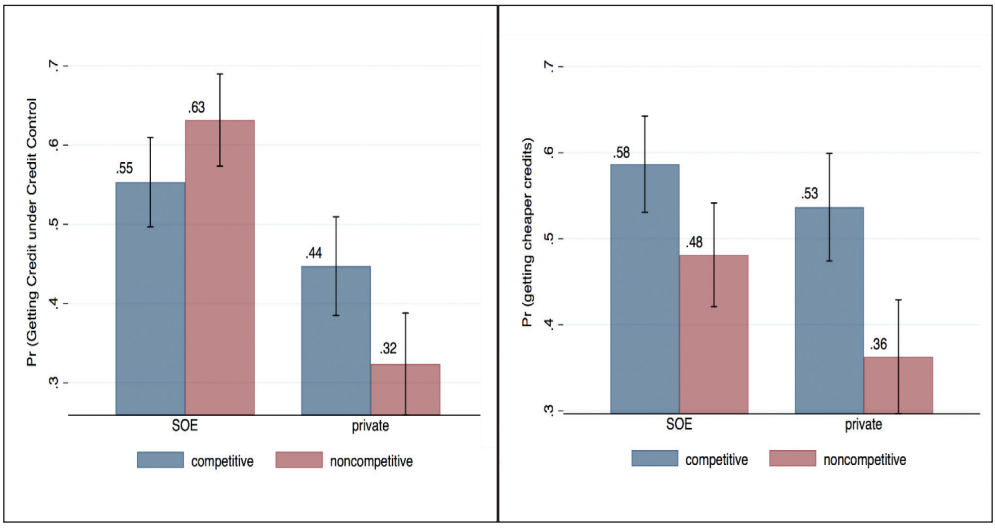
Both the firm attributes and the ordering of these attributes are randomized. The respondent must make a choice between the two firms for each task set. This forced binary comparison is repeated five times for each respondent. For each task, the respondent is asked two questions, yielding two dependent variables for each of the (2*5) firms, coded "1" if the loan officer chooses the firm and "0" otherwise.

[52]NPC refers to National People's Congress and CPPCC stands for Chinese People's Political Consultative Conference. Being part of them are widely used in the China literature as indicators of political connection.

The first question is: “Under a tightening credit environment, which firm is more likely to continue to secure lending from banks in the locality?” The second question is: “When the credit environment is relaxed by the central bank, both firms could have access to banking resources. Which firm is more likely to enjoy cheaper borrowing cost?” The first question gets at the idea of “access” and the second question at the notion of “cost.” The expectation is that competition among state banks rationalizes credit allocation in China, i.e., competition should ease access to both bank loans and credit and should lower the cost of access. The effects should be more pronounced for private firms. After completing the five choice tasks, the loan officers are asked to supply basic personal and work information. For example, we ask whether the loan officer is a party member, the number of years he/she has worked as a loan officer, and the type of state bank the officer works with.

Competition is found to improve private firms’ as well as SOEs’ banking resources, as **Figure 8 (a)** suggests. While the result for private firms is consistent with the observational analysis and statistically significant, it is not statistically significant for the SOEs for this sample. The effect on cost is entirely consistent with the observational analysis, as **Figure 12(b)** shows. While competition brings down the borrowing cost of all firms, its effect on private firms is substantially larger than on the SOEs. Results of regression analyses are plotted in **Figure 3-A** and **Figure 4-A** of the Appendix.

Figure 8: Effects of Bank Competition, Experimental Results

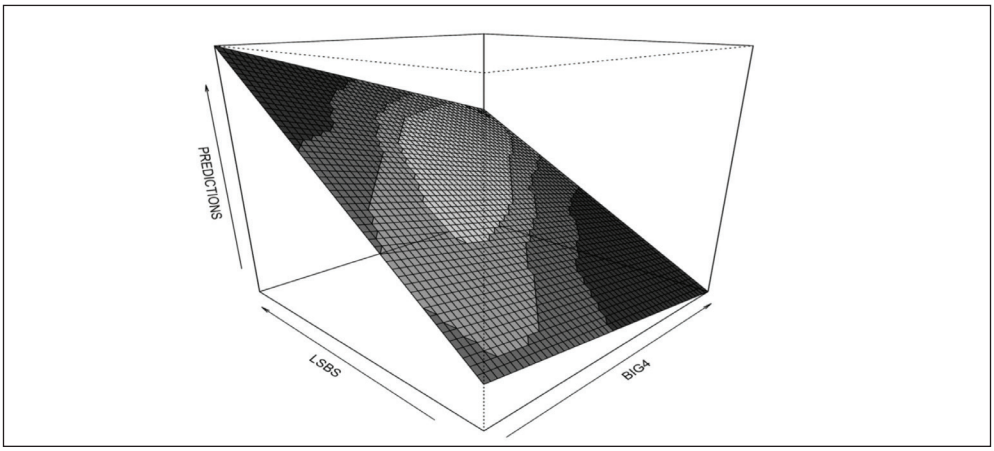


External Validity: LSB Development and Private Investment

Recall that the wording on "bank competition" in the experiment specifies that the competition is induced mostly by the rise of LSBs. To provide the last set of real, non-experimental world evidence that LSBs play a key role in funding private sector development, a small panel dataset that contains aggregate LSB and Big 4 asset information at the province level covering the period of 2008-2013, is used. Also included are a set of province level economic variables such as GDP/cap, FDI and trade volume etc. The key dependent variable of interest is aggregate private investment. The assumption to be tested is that LSBs have been more helpful to private sector development as opposed to the Big 4, and this is reflected in private sector investment. Both fixed effect and GMM approach estimations provide robust confirming evidence for that claim. The dynamic GMM approach suggests that every 10% increase in LSB asset growth is associated with approximately 2% increase in total private sector investment in the province. A surprising finding is that local Big 4 development is negatively associated with private sector development, as shown in **Figure 9** below. One possible explanation is that this is driven by a region effect: Big 4 banks are still dominant in interior regions that have a greater presence of SOEs and a relatively small private sector. The vertical axis is the predicted value of the dependent variable. Complete regression results are reported in **Table (.)** in the Appendix.[53]

Figure 9: LSBs, Big 4 and Private Investment

[Table (.) about here]



[53]Also shown in the Appendix are regression results when switching the dependent variable to aggregate investment level of self-employed small businesses. The positive impact of LSB development is still consistently borne out. In addition, it is also shown that when the dependent variable is SOE investment, then the LSB effect is gone. Instead, "Big 4" becomes positively associated and statistically significant.

6. CONCLUSION

This paper has explored the causes and consequences of banking market development in China under single-party rule. Whereas most other autocracies have tended to stifle market entry and competition in banking, the CCP has done the opposite: diversifying market players and encouraging competition. Yet what happened in China is not full-fledged market opening. Instead, the state mobilized and incentivized its local agents to enter the banking system as competitors. This model of market development is termed as "organizational spinoff." Rather than a simple top-down initiative as would be commonly assumed for policy making in autocracies, organizational spinoff is in fact a bargained outcome. The central state essentially used bank charters as a bargaining chip to elicit support from local state agents for a set of centralizing reforms, the fiscal reform in particular.

Compared to privatizing existing state banks and opening the market to private and foreign participation, organizational spinoff has allowed the Chinese state to simultaneously capture efficiency gains from competitive banking while maintaining firm political control over the financial system. Private firms, often assumed as always being denied access to bank credit in China have, in fact, benefited more from increasing bank competition than state-owned firms. Yet, organizational spinoff has also incurred long term regulatory and economic costs that the state needs to pay down the road. In addition to drawing from two years of fieldwork and archival research, this study pioneered the use of two empirical strategies in studying the political economy of finance. The construction of the spatial dataset covering the universe of Chinese banks and branches allows for an examination of both regional and temporal variation in banking development across administrative levels. And the use of banker surveys and survey experiments also help overcome causal inference challenges associated with current cross-national studies of financial development.

This study resonates with many important findings in the extant China literature. While the literature has stressed that local governments play a key role in laying down market infrastructures and attractive investments, less studied and understood is how these local agents could facilitate development by competing as market players themselves. Using the case of banking, this paper contributes to the literature by spelling out how exactly markets emerge and competition

intensifies both between and within localities in one strategic industry of the party state. Whereas the extant literature tends to focus mostly on the localities—and rightly so, since that is where reform policies are implemented, contested, and sometimes distorted—this study has focused explicitly on the roles of both the center and the localities, and their interactions in driving market development.

Findings of this research also hold explanatory potential for understanding the formation of other strategic markets in the single-party authoritarian state. For instance, China's media market followed almost precisely the same logic as how the banking market formed, i.e. organizational spinoff. After being the only seller of information for three decades, the central state decided in the early 1980s to engage in spinoff, allowing first provinces, then cities, and later counties to set up their own TV stations and commercial newspaper outlets. While state agents remain in charge of these new media spinoffs, they are explicitly incentivized to compete for audiences and raise funds for their own organizations, just as in the banking market. The state remains in ultimate control, regardless of state-driven marketization. More broadly, this research compels scholars and policy makers alike to interrogate two larger issues in the study of political economy. First, what political institutions, beyond those currently highlighted in the existing literature, are essential for building markets that help generate growth and improve well-being? Leaving aside grand theories that typically emphasize regime type and the importance of putting limits on government power, how do markets actually form and how does development actually happen on the ground—especially in political contexts where institutional limits on the state are either weak or simply nonexistent?

In his last book, Douglas North made the argument that what really matters for getting development going is the "incentive structure," not the "slavish imitation of western institutions.". But he left unspecified what the incentives are, for whom they need to be designed, and what is required to sustain them—particularly in a developing, authoritarian context. Second, in the spirit of Ronald Coase, where is the boundary of government in market development? This research further develops—and provides previously unavailable evidence for—one of the core insights of the extant China literature: that governments need not be just providers of market infrastructures but, with proper incentives and constraints, can be market players too. While perhaps a less economically optimal approach than full-fledged market opening, it is highly practical in authoritarian states seeking to jump start financial development. In the case of Chinese banking, it has helped the state to avoid self-constraints that would diminish the center's political power; it has enabled the state to retain control over finance; and it has

created internal checks and balances between local state agents to preserve and promote markets.

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ANNEXURE A: LIST OF TABLES

Table A1: The Chinese Banking System[54]

Bank Type	**Government**	Example	No.[55]	Asset (100 million)	Asset Share[56]
SOCB	**Central**	ICBC	5	688,940[57]	36%
Listed Joint Equity	**Central**	Minsheng	6	192,202[58]	13.6%
Listed Joint	**Provincial**	Xingye	6	124,357[59]	18.8%
Non-Listed Joint Equity	**Provincial**	Henan Bank	17	36,071[60]	12.6%
Listed Joint Equity	**Municipal**	Ningbo Bank	3	14,988[61]	1.1%
Non-Listed Joint Equity	**Municipal**	Anshan Bank	113	161,450[62]	14.2%
Village-Township Bank	**Municipal**	Nanyang VT Bank	1153	8248[63]	0.58%
Rural Commercial Bank	**Provincial/ Municipal**	Chongqing RC Bank	665	86,677[64]	6.14%
Rural-Coop Bank	**Provincial/ Municipal**	Jiashan Rcoop Bank	89	12,322[65]	0.87%
RCCs	**Provincial**	Suizhong RCC	1596	85,951[66]	6.09%

Sources for Calculation: CBRC, WIND and Bank Balance Sheet

[54] Excludes foreign, private and post and savings banks.

[55] CBRC report, May 2015

[56] These are only rough estimates, as the raw data are from different years. They are also calculated without foreign banks, policy banks and postal and saving bank.

[57] May 2015

[58] Calculated using data from theses banks' 2014 annual reports.

[59] Ibid

[60] Calculated from 2014 bank annual reports.

[61] Ibid

[62] May 2015

[63] Estimated from 2013 data, WIND

[64] December 2014

[65] December 2013

[66] December 2013

Table A2: Examples of International Investors in Some LSBs

Bank Name	Foreign Investor	Shares
Shanghai Bank	HSBC	18%
Tianjin Bank	ANZ Bank Australia	11.95%
Shanghai Rural Bank	ANZ Bank of Australia	20%
Guang Dong Bank	Citi Bank	20%
Bohai Bank Tianjin	Standard Chartered Bank	19.99%
Nanjing Bank	Bank of Paris	15%
Xi'an Bank	IFC and Scotiabank	24%
Jinan Bank	CB of Australia	20%
Beijing Bank	IFC and by ING	25%
Hangzhou Bank	CB of Australia	NA
Nanchong Bank	DGE and SIDT of Germany	NA
Qingdao Bank	Intesa Sanpaolo Bank	19.99%
Chongqing Bank	Dah Sing Bank HK	17%
Chengdu Bank	Hong Leong Bank Malaysia	19.99%
Zhengzhou Bank	UOB of Singapore; Temasek Holdings	25%
Jilin Bank	Hana Bank S. Korea	19.67%
Yantai Bank	Hang Seng Bank HK Wing Lung Bank HK	24.99%
Changsha Bank	Banque Populaire France	20%
Yinkou Bank	CIMB Bank Malaysia	19.99%
Qilu Bank	CB of Australia	20%
Deyang Bank	IFC	15%
Guangzhou Bank	Banque Populaire France; Scotiabank Canada	19.9%
Jilin Bank	Hana Bank S. Korea	19.67%
Changsha Bank	Banque Populaire France	20%
Yinkou Bank	CIMB Malyasia	19.99%
Deyang Bank	IFC	15%
Xiamen Bank	Fubon Bank Hong Kong	19.9%
Yantai Bank	Hang Seng Bank; Wing Lung Bank	24.99%

Sources: Available Bank Reports

Table A3: Variable Group/ Name/ Description/ Datasets

Variable Group	Variable Name	Variable Description	Datasets
Dependent Variables	Interest Rates	IR= interest payment/total liability	CIED
	Financial Constraint	Constraint=1 if financial gap>0, and constrain=0 otherwise	Survey 2006
Independent Variables	Bank Competition	Bank Competition = $1 - \sum_{i=1}^{N} \pi_i^2 = \sum_{i=1}^{N} \pi_i (1-\pi_i), \forall i=1,\ldots, N$ where "π" is the share of a branches of bank *i*. The interpretation of the measure is straightforward: it captures the probability that two randomly selected branches belong to a different bank in a city where the firm is located	Bank Branch Dataset
	Bank Concentration	Bank Concentration = $\sum_{j=1}^{3}(\#branch_j) / \sum_{n=1}^{n_1} \#branch_n$, j=1…3 are the three largest banks for their share of branches	Bank Branch Dataset
Controls	Asset	Firm's reported total asset	CIED
	ROE	Return on equity= net income (after tax)total equity	CIED & Survey
	Age	Firm age calculated using firms' set up year	CIED & Survey
	Political Ties	Ranges from 1 to 7. "1" refers to central SOEs, "2" provincial "3" city, "4" county, "5" township, "6" village and "7" private	CIED
Controls	Pre-SOE	Pre-SOE=1 if the private firm was once an SOE, "0" otherwise	Survey
	PC member	PC member=1 if the entrepreneur is a member of the state legislature, "0" otherwise	Survey
	CCP member	CCP member = 1 if the entrepreneur is a party member, "0" otherwise	Survey
	Partner	Partner=1 if the firm is a partnership, "0" otherwise	Survey
	Limited	Limited=1 if the firm is limited liability, "0" otherwise	Survey
	Corporation	Corporation=1 if the firm is registered as a corporation with stocks, "0" otherwise	Survey

Table A4: Descriptive Statistics

Source	Variables	Obs.	Mean	Std. Dev.	Min	Max
CIED 2005-07	Competition	204,228	.733	.118	.1420	.945
	Concentration	204,239	.848	.0807	.638	1
	Interest R (logged)	21,2983	.384	1.6006	-8.92	4.6001
	ROE	200,199	.159	.231	-.999	.999
	Profit/Sales	185,289	.0601	.0721	1.98e-06	.898
	Firm Age	21,2804	10.1	10.34	1	89
	Employee (logged)	212,960	4.94	1.14	.693	13.2
	Political Ties	212,983	6.18	1.52	1	7
Survey 2001	Competition	2,203	55.1	9.43	35.06	89.9
	Concentration	2,199	84.09	6.25	65.8	100
	Constraint	1,662	.8309	.374	0	1
	Informal	2,674	.336	.472	0	1
	CCP member	2,813	.20085	.400709	0	1
	PC member	2,813	.164	.3708	0	1
	Pre-SOE	2,813	.0252	.156	0	1
	Size(logged)	1,530	5.97	1.77	.693	11.7
	Employee (logged)	2,812	4.13	1.3008	0	9.90
	Firm Age	2,503	5.63	4.098	1	20
Survey 2003	Competition	3,593	65.9	28.8	0	90.3
	Concentration	3.593	82.6	6.23	66.6	98.2
	Constraint	3,593	.734	.441	0	1
	PC member	3,593	.443	.497	0	1
	CCP member	3,318	.339	.473	0	1
	Pre-SOE	3,593	.175	.381	0	1
	Size (logged)	3,592	5.85	5.85	-2.019	12.8
	Employee (logged)	3,592	3.88	1.47	0	9.79
	Firm Age	3,170	6.12	3.99	1	18
Survey 2005	Competition	3,837	63.1	3.019	0	90.93
	Concentration	3,837	84.05	7.56	66.1	98.2
	Constraint	3,837	.780	.414	0	1
	Firm Age	3,690	7.057	4.45	1	21
	Size (logged)	3,808	6.16	2.021	.0953	12.8
	Pre-SOE	3,600	.2027	.402	0	1
	PC member	3,837	.1902	.392	0	1
	CCP member	3,837	.363	.481	0	1

	Partner	3,837	.0685	.252	0	1
	Limited	3,837	.6346	.481	0	1
	Corporation	3,837	.0607	.238	0	1
Survey 2007	Competition	4,098	64.7	3.034	0	91.5
	Concentration	4.098	81.3	6.18	66.1	97.4
	Constraint					
	Size (logged)	4,098	5.58	2.0022	0	7.22
	Employee (logged)	3,936	3.81	1.63	0	9.903
	Firm Age	4,089	8.23	4.86	2	30
	PC member	4,089	.444	.496	0	1
	Pre-SOE	3,937	.173	.378	0	1
	CCP member	4,098	.334	.471	0	1
Survey 2009	Constraint	4,614	60.51	4.88	0	1
	Competition	4,614	63.8	3.14	0	92.2
	Concentration	4,614	80.84	6.32	66.1	97.4
	Informal					
	Size (logged)	4,139	6.57	2.33	-1.609	15.1
	Employee (logged)	4,358	3.79	1.62	0	9.305
	Firm Age	4,309	9.66	4.68	1	22
	Government position	4,614	.0188	.136	0	1
	CCP member	4,614	.398	.489	0	1
	PC member	4,614	.433	.495	0	1
Survey 2011	Competition	4,196	79.35	9.44	29.1	93.8
	Concentration	4,196	82.2	7.96	0.656	1
	Constraint	5,073	36.7	4.82	0	1
	Informal	5,037	.0932	.291	0	1
	PC member	5,073	.156	.363	0	1
	CCP member	5,073	.327	.469	0	1
	Pre-SOE	5,073	.0577	.233	0	1
	Size (logged)	4,576	6.86	2.53	-2.302	15.7
	Employee (logged)	4,938	3.75	1.74	0	10.87
	Proprietorship	5,073	.141	.348	0	1
	Partnership	5,073	.0457	.2089	0	1
	Limited	5,037	.733	.442	0	1
	Corporation	5,037	.0689	.253	0	1

Table A4

	Bivariate	All Firms	SOE only	Private only
DV=Debt/Asset	(1)	(2)	(3)	(4)
Competition	**0.0156*** **	**0.113*** **	**-0.0840*** **	**0.114*** **
	(0.00299)	(0.00381)	(0.00836)	(0.00382)
SOE		0.114***		
		(0.00688)		
SOE*Competition		**-0.171*** **		
		(0.00909)		
Firm Controls	Y	Y	Y	Y
Province FE	N	Y	Y	Y
Industry FE	N	Y	Y	Y
Year FE	N	Y	Y	Y
Observations	367,532	261,642	41,993	219,649
R-squared	0.0001	0.014	0.025	0.016

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A5: Bivariate/ All Firms/ SOE Only/ Private Only

	Bivariate	All Firms	SOE only	Private only
DV=Debt/Asset	(1)	(2)	(3)	(4)
Concentration	**-0.138*** **	**-0.342*** **	**0.0888*** **	**-0.345*** **
	(0.00421)	(0.00544)	(0.0116)	(0.00546)
SOE		-0.352***		
		(0.0109)		
SOE*Concentration		**0.397*** **		
		(0.0127)		
Firm Controls	Y	Y	Y	Y
Province FE	N	Y	Y	Y
Industry FE	N	Y	Y	Y
Year FE	N	Y	Y	Y
Observations	367,516	261,649	42,040	219,609
R-squared	0.003	0.025	0.024	0.030

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A6: Instrumental Variable (Neighbors' Competition/Neighbors' Competition + Concentration)

Dependent Variable= Debt / Asset	Instrumental Variable = Neighbors' Competition			Instrumental Variable = Neighbors' Competition+ Concentration		
	All Firms	SOE only	Private only	All Firms	SOE only	Private only
	(1)	(3)	(5)	(2)	(4)	(6)
Competition	**0.273*** **	**-0.132*** **	**0.274*** **	**0.477*** **	**-0.129*** **	**0.484*** **
	(0.0109)	(0.0175)	(0.0109)	(0.00758)	(0.0140)	(0.00763)
Competition*SOE	**-0.365*** **			**-0.557*** **		
	(0.0202)			(0.0163)		
SOE	0.256***			0.385***		
	(0.0150)			(0.0119)		
Controls	Y	Y	Y	Y	Y	Y
Observations	261,642	41,993	219,649	261,642	41,993	219,649
Industry FE	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
R-squared	0.009	0.025	0.008	0.0128	0.0247	0.0119
1st stage partial R^2	0.1323	0.2157	0.1124	0.2316	0.3512	0.2617
1st stage F-stat	6028.53	11544.7	27827.2	39424.1	11363.5	38917.9
Overid P-value				0.591	0.759	0.576

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A7: Instrumental Variable (Neighbor Concentration /Neighbor Concentration + Competition)

Dependent Variable = Debt / Asset	Instrumental Variable = Neighbor Concentration			Instrumental Variable = Neighbor Concentration + Competition		
	All Firms	SOE	Private	All Firms	SOE	Private
	(1)	(2)	(3)	(4)	(5)	(6)
Concentration	**-1.068*** **	**0.133*** **	**-1.075*** **	**-0.670*** **	**0.181*** **	**-0.435*** **
	(0.0229)	(0.0379)	(0.0230)	(0.0102)	(0.0203)	(0.0105)
Concentration*SOE	**1.126*** **			**0.755*** **		
	(0.0431)			(0.0222)		
SOE	-0.978***			-0.660***		
	(0.0371)			(0.0192)		
Observations	261,649	42,040	219,609	261,649	42,040	219,528
Firm Controls	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
R-squared	0.0106	0.024	0.0211	0.003	0.023	0.028
1st stage partial R^2	0.0696	0.0870	0.0646	0.2534	0.3276	0.2735
1st stage F-stat	1967	895.701	3004.11	43168.2	9303.17	31273.1
Overid p-value				0.427	0.139	0.121

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A8 (a): Survey 2000

	Bivariate	Probit	Instrumental
DV=CONSTRAINT	(1)	(2)	(3)
Competition	**-0.0174*** **	**-0.0132***	**-0.0159*** **
	(0.00504)	(0.00709)	(0.00437)
PC member		**-0.230***	**-0.0658** **
		(0.121)	(0.0329)
CCP member		0.101	0.0179
		(0.115)	(0.0292)
Pre-SOE		0.233	0.0878
		(0.298)	(0.0684)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	1,870	1,062	1,062
1st stage partial R^2			0.178
1st stage F-stat			111
Overid p-value			0.396

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A8 (b): Survey 2000 (Continued)

	Probit	Probit	IV
DV=INFORMAL	(1)	(2)	(3)
Competition	**-0.00773*** **	**-0.0114***	**-0.00863***
	(0.00291)	(0.00654)	(0.00441)
PC member		0.121	0.0618
		(0.110)	(0.0427)
CCP member		-0.0586	-0.0263
		(0.0985)	(0.0408)
Pre-SOE		-0.0691	-0.00186
		(0.233)	(0.0865)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	2,099	1,088	910
R-squared			0.087
1st stage partial R^2			0.168
1st stage F-stat			71.4
Overid p-value			0.669

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A9 (a): Survey 2004

	Probit	Probit	Instrumental
DV= Constraint	(1)	(2)	(3)
Competition	**-0.0120*** **	**-0.00729** **	**-0.0060039*** **
	(0.00292)	(0.00316)	(0.00217)
PC member		0.0162	-0.00217
		(0.0606)	(0.0190)
CCP member		-0.00180	-0.00648
		(0.0578)	(0.0182)
Pre-SOE		-0.0816	-0.0250
		(0.0704)	(0.0226)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	3,062	2,814	2,816
R-squared			0.061
1st stage partial R^2			0.193
1st stage F-stat			366
Overid p-value			0.598

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A9 (b): Survey 2004 (Continued)

	Probit	Probit	IV
DV=INFORMAL	(1)	(2)	(3)
Competition	-0.00999***	-0.00666**	-0.00438*
	(0.00261)	(0.00320)	(0.00244)
PC member		-0.229***	-0.0797***
		(0.0804)	(0.0254)
CCP member		0.0989	0.0328
		(0.0647)	(0.0215)
Pre-SOE		0.185**	0.0592**
		(0.0779)	(0.0265)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	2,454	2,189	2,197
R-squared			0.052
1st stage partial R^2			0.197
1st stage F-stat			314
Overid p-value			0.211

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A10 (a): Survey 2006

	Probit	Probit	Instrumental
DV = CONSTRAINT	(1)	(2)	(3)
Competition	**-0.0228*** **	**-0.0128*** **	**-0.00988*** **
	(0.00262)	(0.00365)	(0.00287)
CCP member		-0.0194	-0.00812
		(0.0790)	(0.0197)
PC member		-0.00935	-0.0127
		(0.0964)	(0.0227)
Pre-SOE		-0.0923	-0.0237
		(0.0976)	(0.0237)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	3,193	1,795	1,826
R-squared			0.062
1st stage partial R^2			0.1035
1st stage F-stat			118.8
Overid p-value			0.2057

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A10 (b): Survey 2006 (Continued)

	Probit	Probit	IV
DV= INFORMAL	(1)	(2)	(3)
Competition	**-0.00178****	**-0.00471****	**-0.00244****
	(0.000757)	(0.00234)	(0.00104)
PC member			-0.0231
			(0.0214)
CCP member		-0.0736	-0.0213
		(0.0732)	(0.0184)
Pre-SOE		0.0309	0.00200
		(0.0898)	(0.0235)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	3,837	2,101	2,116
R-squared			0.066
1st stage partial R^2			0.4032
1st stage F-stat			239
Overid p-value			0.101

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A11 (a): Survey 2008

	Probit	Probit	IV
DV = CONSTRAINT	(1)	(2)	(3)
Competition	**-0.0812*** **	**-0.0368** **	**-0.0186*** **
	(0.00937)	(0.0150)	(0.00515)
Pre-SOE		0.197**	0.0327
		(0.0948)	(0.0255)
CCP Member		-0.0818	0.0162
		(0.0719)	(0.0221)
PC Member		-0.0303	-0.0346
		(0.0732)	(0.0234)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	3,196	2,430	858
R-squared			0.050
1st stage partial R^2			0.363
1st stage F-stat			118.4
Overid p-value			0.342

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A11 (b): Survey 2008 (Continued)

	(1)	(2)	(3)
DV = INFORMAL	Probit	Probit	IV
Competition	**-0.00441***	**-0.00936*****	**-0.00326****
	(0.00236)	(0.00350)	(0.00147)
PC member		**-0.126***	**-0.0300***
		(0.0756)	(0.0155)
CCP member		-0.00254	-0.000535
		(0.0735)	(0.0147)
Pre-SOE		-0.123	-0.0261
		(0.0948)	(0.0186)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	3,424	2,647	2,647
R-squared			0.061
1st stage partial R^2			0.249
1st stage F-stat			430.1
Overid p-value			0.7108

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A12: Survey 2010

(Data from 2009, *i.e.* Fiscal Stimulus Year)

	(1)	(2)	(3)
DV=Constraint	Probit	Probit	Instrumental
Competition	**0.0203*** **	**0.0134*** **	**0.0109*** **
	(0.00205)	(0.00357)	(0.00246)
Government Job		-0.0270	-0.00839
		(0.211)	(0.0678)
CCP member		**-0.126** **	**-0.0378***
		(0.0629)	(0.0209)
PC member		**-0.321*** **	**-0.107*** **
		(0.0684)	(0.0246)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	4,043	2,071	2,077
R-squared			0.212
1st stage partial R^2			0.228
1st stage F-stat			431.9
Overid p-value			0.651

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

*Note: Unlike other years, this year's survey contains no question on informal finance.

Table A13 (a): Survey 2012

	Probit	Probit	IV
DV = CONSTRAINT	(1)	(2)	(3)
Competition	**-0.0146***	**-0.0268****	-0.0183
	(0.00773)	(0.0132)	(0.0189)
PC member		-0.108	**-0.0436***
		(0.0674)	(0.0251)
CCP member		0.0350	0.0113
		(0.0503)	(0.0182)
Pre-SOE		-0.0575	-0.0261
		(0.0966)	(0.0339)
Firm Controls	N	Y	Y
Province FE	N	Y	Y
Industry FE	N	Y	Y
Observations	4,129	3,480	3,460
R-squared			0.043
1st stage partial R^2			0.381
1st stage F-stat			383
Overid p-value			0.176

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A13 (b): Survey 2012 (Continued)

	Probit	Probit	IV
DV = INFORMAL	**(1)**	**(2)**	**(3)**
Competition	**-0.0440*** **	**-0.0510*** **	**-0.0120** **
	(0.01000)	**(0.0172)**	**(0.00521)**
PC member		**-0.275*** **	**-0.0466*** **
		(0.0972)	**(0.0149)**
CCP member		**0.120***	**0.0201**
		(0.0668)	**(0.0128)**
Pre-SOE		**-0.0481**	**-0.00475**
		(0.131)	**(0.0227)**
Firm Controls	**N**	**Y**	**Y**
Province FE	**N**	**Y**	**Y**
Industry FE	**N**	**Y**	**Y**
Observations	**4,279**	**3,549**	**2,936**
R-squared			**0.039**
1st stage partial R^2			**0.3807**
1st stage F-stat			**407.7**
Overid p-value			**0.543**

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A14: Competition/ Concentration

Dependent Variable =		Competition				Concentration		
	Bivariate	All Firms	SOE only	Private only	Bivariate	All Firms	SOE only	Private only
Borrowing Cost	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Competition	**-2.175*** **	**-1.979*** **	**-1.781*** **	**-1.977*** **				
	(0.0225)	(0.0269)	(0.0682)	(0.0269)				
Concentration					**2.462*** **	**2.516*** **	**2.002*** **	**2.523*** **
					(0.0321)	(0.0382)	(0.0948)	(0.0382)
SOE*Competition		**0.236*** **						
		(0.0722)						
SOE*Concentration						**-0.528*** **		
						(0.101)		
SOE		-0.694***				-0.104		
		(0.0546)				(0.0869)		
Firm Controls	N	Y	Y	Y	N	Y	Y	Y
Province FE	N	Y	Y	Y	N	Y	Y	Y
Industry FE	N	Y	Y	Y	N	Y	Y	Y
Year FE	N	Y	Y	Y	N	Y	Y	Y
Observations	359,061	265,585	31,474	234,111	359,115	265,620	31,540	234,080
R-squared	0.026	0.046	0.043	0.034	0.016	0.041	0.035	0.029

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A15: Instrumental Variable (Neighbors' Competition/Neighbors' Competition + Concentration)

	Instrumental Variable = Neighbors Competition			Instrumental Variable = Neighbors' competition + concentration		
Dependent Variable =	All Firms	SOE only	Private only	All Firms	SOE only	Private only
Borrowing Cost	(1)	(2)	(3)	(4)	(5)	(6)
Competition	**-3.208*** **	**-2.640*** **	**-3.210*** **	**-4.195*** **	**-2.202*** **	**-4.221*** **
	(0.0781)	(0.137)	(0.0785)	(0.0519)	(0.0932)	(0.0522)
Competition*SOE	**0.631*** **			**1.770*** **		
	(0.154)			(0.123)		
SOE	-0.970***			-1.769***		
	(0.115)			(0.0894)		
Observations	265,585	31,474	234,111	265,585	31,455	234,111
Firm Controls	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
R-squared	0.038	0.038	0.025	0.017	0.042	0.004
1st stage R^2	0.1333	0.2471	0.1145	0.2436	0.5326	0.2646
1st stage F-stat	20420	10329.2	30264.5	42754.6	17914	42114.1
Overid p-value				0.251	0.194	0.268

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A16: FE/GMM (Collapse)/ GMM (pca)

DV = Private Invest (log)	bivariate	FE	GMM (collapse)	GMM (pca)
LSB asset (log)	1.058***	0.563***	0.168***	0.187***
	(0.0407)	(0.198)	(0.0607)	(0.0546)
Big 4 Asset (log)		0.642	-0.113	-0.0255
		(0.711)	(0.0845)	(0.0459)
GDP/cap (log)		-0.00916	0.00729**	0.00146
		(0.0214)	(0.00289)	(0.00847)
GDP (log)		0.129	-0.0524	-0.0384
		(0.271)	(0.0408)	(0.0301)
Export/GDP		-0.0313	-0.233**	-0.111
		(0.332)	(0.118)	(0.0864)
FDI/GDP		0.0825	-1.63***	-0.254
		(2.455)	(0.503)	(0.270)
Lagged DV			0.928***	0.870***
			(0.0467)	(0.0254)
Constant	-1.745***	-5.979	0.867**	0.186
	(0.336)	(4.850)	(0.386)	(0.223)
Observations	177	177	177	177
Year & City FE	N	Y		
Number of Provinces	30	30	30	30
R-squared	0.766	0.687		
AR(2) Z-score			0.12	0.11
P-value			0.901	0.911
Hansen Test			25.09	22.98
P-value			0.99	0.403

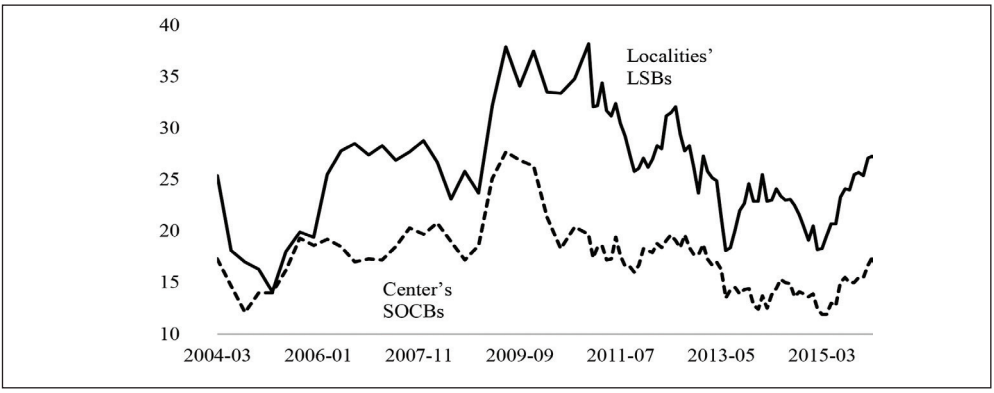
Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: “pca” refers to principal component analysis, which was used to reduce the number of instruments in the dynamic panel analysis.

ANNEXURE B: LIST OF FIGURES

Figure 1-A: Bank Asset Growth (%)



Source: CBRC and WIND

Note: LSBs here included all the city banks as well as a number of rural commercial banks that have made annual reports available online.

Figure 2-A: Bank License


中华人民共和国

金融许可证

机构名称：长子县融汇村镇银行有限责任公司

许可该机构经营中国银行业监督管理委员会依照有关法律、行政法规和其他规定批准的业务，经营范围以批准文件所列的为准。

批准成立日期：2011年01月18日

住　　所：山西省长子县丹朱镇集贸市场0号楼

机构编码：S0011H314040001

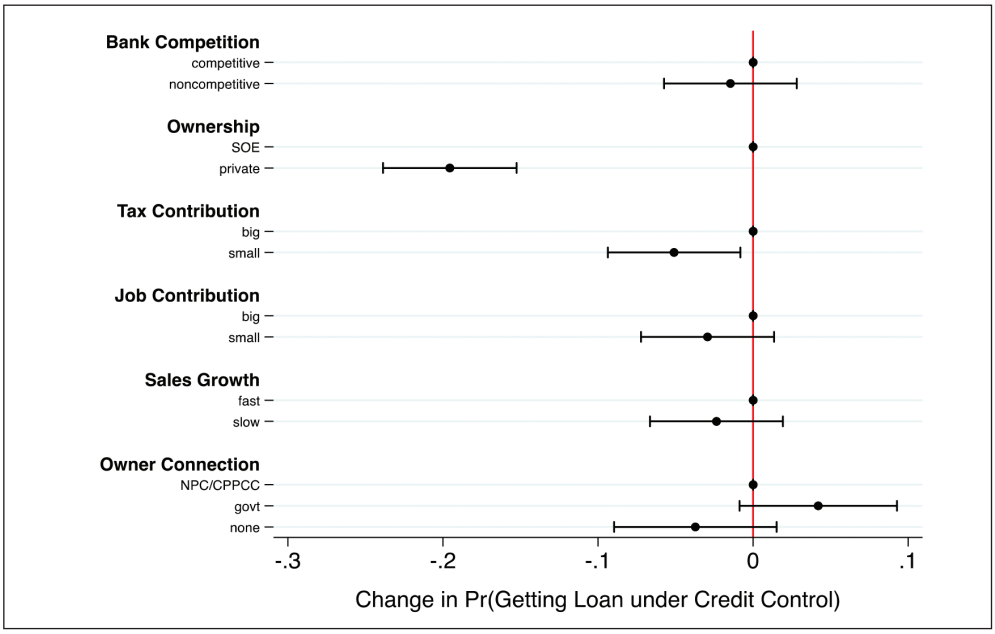
发证机关：中国银行业监督管理委员会长治监管分局　2011 年 01 月 20 日

No

Note: All bank branches need to get such a license before entering the local banking market. The heighted area is the key information for data extraction: the exact location of the branch and the opening date of the branch.

Figure 3 - A

Who Has Continued Access to Bank Resources under Credit Control? Experimental Results



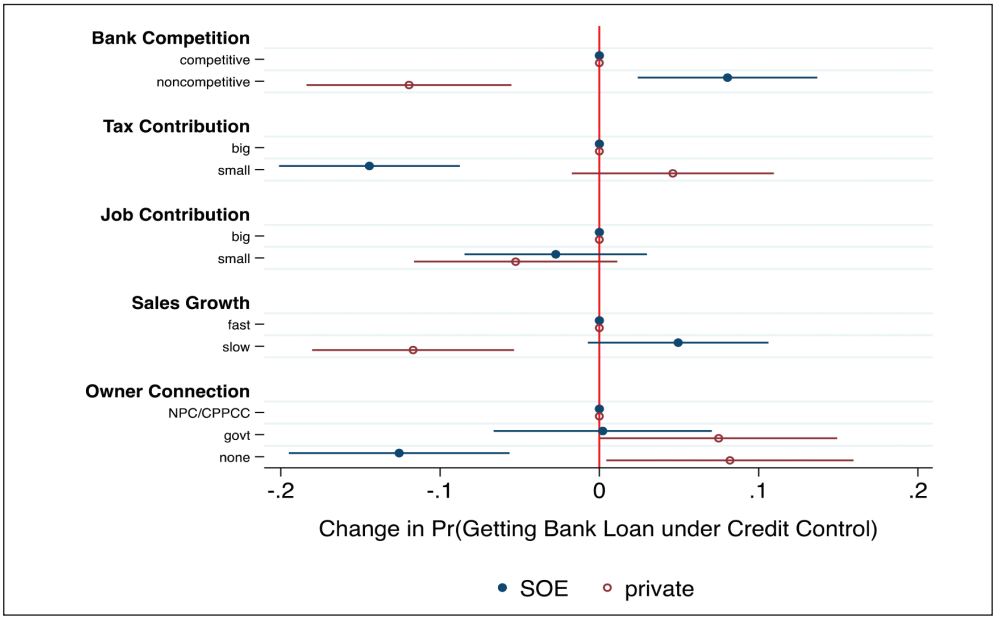
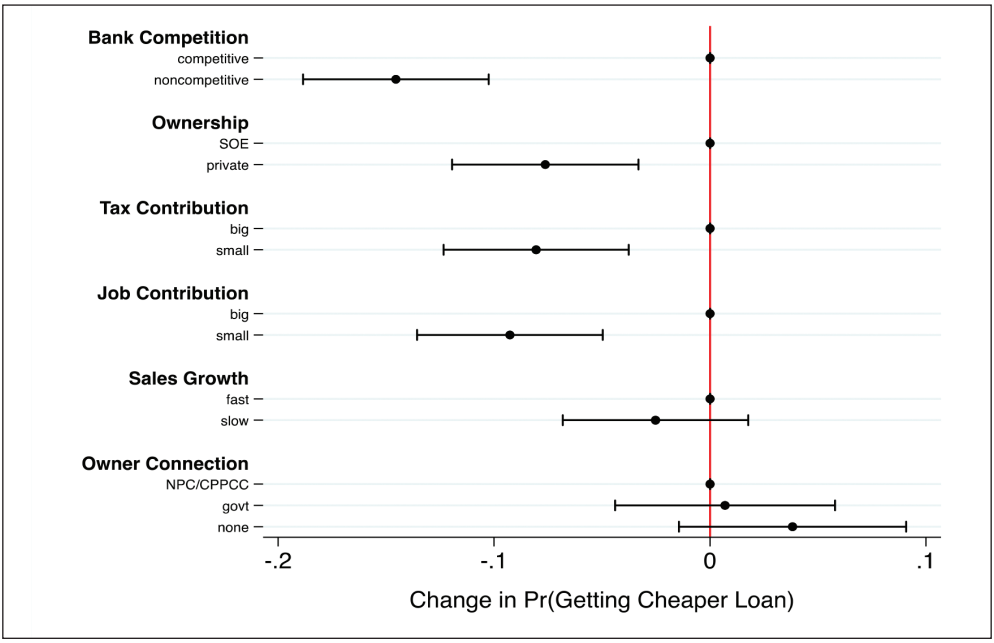
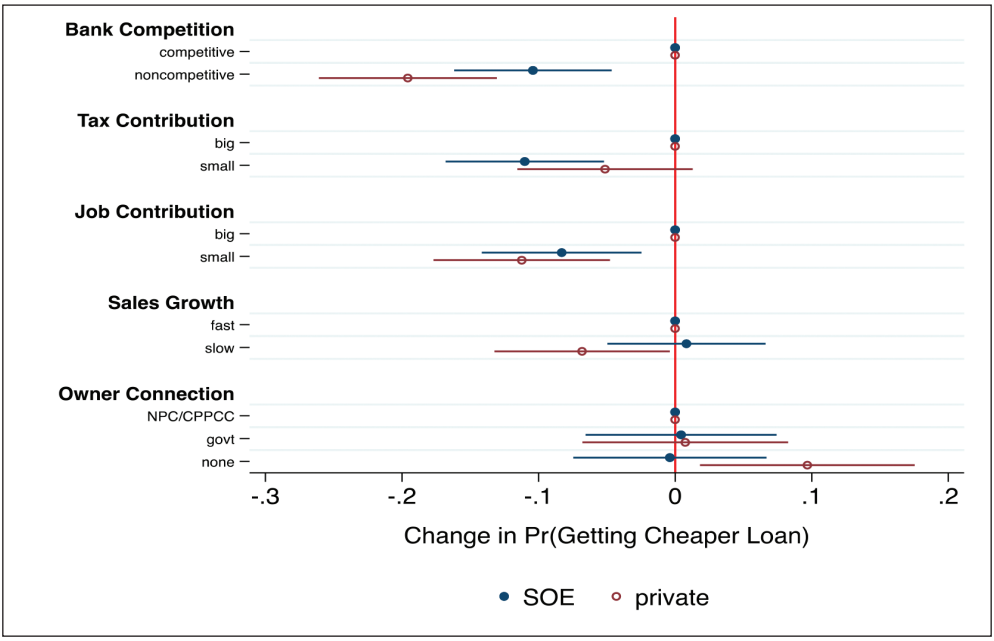


Figure 4 –A

Who Gets Cheaper Credit under Relaxed Credit Environment)? Experimental Results





ANNEXURE C: THE 1994 FISCAL REFORM AND BANK PROLIFERATION

Prior to 1994, China's fiscal system was designed in such a way that local governments controlled most of the country's revenue. This fiscal arrangement motivated local governments to drive development in the post-Mao era (Oi 1992; Montinola, Qian and Weingast 1995; Oi 1999; Jin, Qian and Weingast 2005).[67] While generating impressive growth, it came back and bit the center. In 1993, Beijing was only getting 22 percent of the national revenue, whereas localities amassed all the rest.[68] By the mid-1990s, the center's fiscal condition was "in very poor shape, to the point of being unsustainable" (Zhu 2014, 207).[69]

Regaining control over the fiscal system was imperative, and the center did it in 1994.[70] Yet, it was not done through a simple administrative fiat.[71] To reform the fiscal system, the center negotiated hard with local governments. In addition to tax returns, subsidies and greater spending autonomy, bank charters were used *explicitly* to gain localities' acquiescence to fiscal recentralization. Remarks by Zhu Rongji, architect of the fiscal reform, attest unambiguously to the link between fiscal reform and bank proliferation. For example, in his conversation with Guangdong officials, Zhu stated:

> "Some people say if the local governor isn't in charge of finance, how can he be in charge of the economy? …at the time we deepen fiscal reforms, we must speed up the establishment of local banks [my emphasis]. In the

[67] In the post-Mao era, the center motivated local governments to coordinate and promote local development by granting them clear property rights to whatever economic surplus, *i.e*. residual, that they were able to generate (Oi 1992). With fiscal decentralization, firms submitted taxes and fees to the level of government that owned them. This arrangement allowed the local residual to grow rapidly, at the cost of denying the central state maximum tax revenues. As Oi puts it, "[T]he Chinese reforms succeeded in generating local economic growth because the central state did not get the taxes right" (Oi 1999, p57).

[68] Figure from the national statistics bureau, acc essed via WIND.

[69] Some scholars warned that fiscal decentralization might produce "feudal lord economies" and political disunity (Wang and Hu 1993; Fewsmith, 1994).

[70] After recentralization, local governments' share of revenue dropped dramatically from 78% to 45%, while their share of expenditure remained at 65% and continued to rise.

[71] Local governments are not mere subservient agents of the central state, but are known for their ability to skillfully if not openly distort central policies and effectively protect and advance local interests (Oi 1989; Oi 1992; Blecher and Shue 1996; Duckett 1997; Walder 1998; Oi 1999). Moreover, by the mid-1990s, more than a decade of reform and growth had empowered localities to the extent that could make economic if not political demands (at least economic ones) on the center (Shirk 1990; Montinola, Qian and Weingast 1995).

future, local banks will be able to develop branch agencies…These are all local financial institutions, and their Party organizations will all be local—that alone will be plenty for local Party and government leaders to be in charge of [my emphasis]" (Zhu, p.489).

The center honored its commitment. Provincial capitals and other major cities had their own banks set up immediately after 1994. While each locality was given one license initially, over time, they began to acquire more. For example, the city of Tianjin is home to the headquarters of Bohai Bank and Tianjin Bank, both are controlled by the Tianjin government, and both manage hundreds of branches (mostly within the city). The government of Tianjin also controls several rural LSBs that also compete in the same local banking market.[72] The explosion of bank headquarters since 2004 is caused by (1) the upgrading of rural commercial cooperatives (RCCs)[73] into commercial banks and (2) the emergence of village-township banks, both of which reflected the central state's preference of improving rural finance for building a "new socialist countryside".

[72]The rural LSBs are Tianjin Rural Cooperative Bank, The Association of Tianjin Rural Cooperatives, Tanggu Rural Cooperative Bank, Dagang Rural Cooperative Bank (these two rural cooperative banks later were merged by the city government with Hangu Rural Cooperative and turned into Tianjin Binhai Rural Commercial Bank), and Jinnan Rural Cooperative Bank. Although all controlled by the same government, the LSBs also compete with one another.

[73]Annexure E of the Appendix discusses introduces the RCCs and their institutional development over time in greater detail.

ANNEXURE D: COLLECTING BANK BRANCH INFORMATION

The most critical yet technically difficult part of this project is data collection. The whole process can be divided into five steps, which are described briefly here. Key to note is that all the actual data are publicly available, and the task is to bring them together and format it into a useable dataset.

Step 1: All banking institutions are classified (centrally-controlled state banks, provincially-controlled joint equity banks, city banks, etc.) according to the official classification scheme available via the website of China Banking Regulatory Commission (CBRC). All information is the collected on the administrative divisions of China's localities (provinces, cities, counties/districts) and their administrative code as well as postal code. This information is available through the website of the National Statistics Bureau.

Step 2: Getting bank branches' basic information. According to Chinese law, whenever a bank sets up a new branch, the new branch must register with the local Industrial and Commercial Bureau (ICB). The local ICB in turn will have such information as branch name, address, establishment date, etc. of the new bank branch. All the information is publically available on local ICB online management system, i.e. the Enterprise Credit Information Publicity System (ECIPS).

Due to the visit limit of ECIPS websites, the data could not be directly exported. Information could only be found by natural language search on the web pages. Yet it is almost impossible to collect all bank branches' registration information manually. What was done was to find out some regular patterns of related web pages to collect this information automatically. These patterns were found by taking the following steps: (1) analyze the search page and find out the searching HTTP request format; (2) analyze the result list page and find out the pagination HTTP request format; and (3) analyze in detail the page and find out the transformation patterns to target data format.

For server performance reasons, we can only send several HTTP request by an IP address at one time (Normally 50 Request/ IP / Hour). It will take several years without relying on other technical means. Hence, the following steps were taken: (1) set up multiple browser user agent, so that the limitless mobile-device-only

web service interface can be visited; it was figured out that mobile device does not have visit limit; (2) use a number of proxy servers to avoid the IP address limit; (3) use automatic identification authentication code to get a request access token.

With the basis of the above technology, a program was written to extract data from related websites. Java was used for coding and MySQL was used for data storage. The following briefly describes the development environments: (1) runtime environment: Java Development Kit 1.7; (2) integrated development environment: Eclipse Luna Service Release 2 (4.4.2); (3) MySQL driver: Mysql-connector-java-5.0.8.jar; (4) Software bundle for HTML page analysis: jsoup-1.6.1.jar; (5) Software bundle for Web data crawling: HttpClient-4.4.jar.

There are always measurement errors of many kinds in our search results, as in the building of any dataset. Therefore, data cleaning and correction were implemented continually to improve the accuracy rate of our results. This is an extremely difficult and time-consuming process depends on the quality of data from different provinces.

Step 3: The next step was to collect geographic information of bank branches. There are ten reputable Geographic Information System (GIS) providers in China, and Baidu Map is the biggest. It provides the most comprehensive geographic information services. There are two ways to get bank branch location information via Baidu Map: (1) place API, get location information by bank branch name; and (2) geocoding API, get location information by bank branch address. We use both methods to make precise our geographic information.

For natural language search, there are always unavoidable mistakes in search results, the accuracy was improved by taking the following steps: (1) get two coordinates through the above methods; (2) calculate the distance between two coordinates; (3) get region information of coordinates by Geocoding API; and (4) if the distance is long enough or the region information does not match the region information from ECIPS, adjust the search keyword and repeat the first step. This is all done through a program that was written for achieving automatic data gathering and cleaning. Finally, the precision of geographic information is further improved by using Google map and Bing map. For the data already collected, in many instances, precision was improved by more than 100 meters.

ANNEXURE E: THE URBAN CREDIT UNIONS

The UCCs were non-bank financial institutions that appeared in the post-Mao era. While the first few UCCs were organized in the 1980s by local business communities to meet their financing needs, most were set up by the SOCBs as subsidiaries; the SOCBs used these subsidiaries mostly to solve the employment problem for their employees' families and friends (Men 2011).

Unlike the SOCBs, UCCs operated largely outside the regulatory purview of the central state. In fact, the state was losing track of their proliferation by the 1990s.[74] In 1986, there were less than 1,000 UCCs in 1986, but by 1994, the number is estimated to have been well over 5,000 (ibid). Many UCCs were insolvent by the mid-1990s, though their NPL ratio was 4 times smaller than the SOCBs', and earning-asset ratio 10 times larger (Girardin and Xie 1997).

The UCCs were the foundational assets with which local governments built their banks after 1994. A bank charter from the center carries with it the right to take over UCCs from the local SOCBs—to close the bad ones, merge the good ones, turn them into commercial banks (i.e. LSBs), and put them under the control of the local party state. The local party organization department chose the managers of the banks, and the local fiscal bureaus were the majority shareholder of the new banks.

Closing the UCCs and putting them into the hands of local governments made the financial system more legible to the center. It also transferred part of the responsibility of cleaning up the failing UCCs to local governments.[75] Yet the handsome future payoff—the ability to compete with the SOCBs over residents' savings and using them for development purposes as they see fit—made local governments willing to pay the initial cost. **Figure 3** provides a simplified account for the evolution of China's state-controlled banking system in the reform era.[76]

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[74]For example, as the UCCs proliferated fast in the reform era, the state initiated several directives to the central bank, ordering the regulators to keep track the UCC development, close down insolvent ones and clean up the credit union system.

[75]For example, in merging the UCCs in their jurisdiction in 1995, the government of Shanghai spent over 400 million RMB in clearing the bad loans on the UCCs' book (Men 2011).

[76]Missing from the discussion thus far are the rural credit unions (RCCs) and joint stock banks, because they were not part of the decentralization story in 1994. Crucial for rural finance in the reform era, local governments (provinces) did not take them over until the mid-2000 to turn them into commercial banks. A brief discussion on the complicated evolution of RCCs is provided in Appendix B. The joint-stock banks were not part of the

ANNEXURE F: RURAL CREDIT UNIONS (RCCS) IN CHINA

Set up in the Maoist era, RCCs were used to mobilize rural savings for collectivization. The People's Bank of China (PBOC) issued draft documents on the official guidance for setting up RCCs and RCC accounting rules in 1951. The number of RCCs increased exponentially in the subsequent years, reaching 160,000 by 1956. In the same year, well over 80% of townships in China had RCCs in their jurisdictions. Throughout the Maoist era, RCCs were directly under the management of the PBOC, and they were deemed as both "rural collective financial institutions, but also the local arms of the PBOC".[77]

In the Deng era, RCCs were put under the management of the newly re-established Agricultural Bank of China. In 1984, counties started to set up county RCC associations (*xian lianshe*), which then were put in charge of RCC management. In 1996, the RCC management system changed once again; RCCs were now separate from the Agricultural Bank of China, and the *xian lianshe* became the sole manager of local RCCs.

The commercialization of RCCs began in 2003, when the State Council issued "The Draft Document on Experimenting with Further RCC Reforms". In it, the center selected eight provinces (Shandong, Zhejiang, Jiangsu, Guizhou, Jiangxi, Jilin, Chongqing and Shanxi) as experimental sites. In these provinces, RCCs began to merge into either rural cooperative banks (*nongcun hezun yinhang*) or as rural commercial banks (*nongcun shangye yinhang*), depending on the asset qualities of the local RCCs. Later, the experiment was rolled out across the country. As of 2015, almost half of the existing RCCs have been turned into one of the two kinds of rural banks.

By the end of 2015, there are five management models of rural financial institutions. The first is the Beijing/Shanghai model, where all the rural credit cooperatives have been merged and turned into two LSBs, the Beijing Rural

1994 decentralization story either. The first few of them appeared in the late 1980s as Beijing granted the rich provinces and megacities (e.g. Guangdong Development Bank) the privilege to set up their own commercial banks. Yet in the early 1990s they were miniscule. More joint-stock banks appeared in the 2000s—they are still part of the LSB category described as they were set up by provincial governments merging city-level LSBs.

[77] "A Few Regulations on Rectifying and Strengthening Banking Work"《关于整顿和加强银行工作的几项规定》November 1977, State Council.

Commercial Bank and the Shanghai Rural Commercial Bank, whose CEOs are selected by the Beijing and Shanghai party organization departments. The second type, which is the most common, is one where rural credit cooperatives are all merged and upgraded to local rural commercial banks, but the provincial rural credit cooperative association (*sheng lianshe*) continue to take the overall charge of all rural financial institutions, that is, the province still holds the key personnel appointment power.

The third type, which is a singular case, is the Ningxia model, where the provincial rural credit cooperative association is all at once turned into the headquarters of the new provincial rural commercial bank, with all existing rural credit cooperatives in the province turning into the new bank's branches. The fourth, like the second, is a model where the provincial RCC association and city-level rural commercial banks co-exist (the second type is one where province RCC associations and county-level rural commercial banks co-exist).

The final type is one where the newly found rural commercial bank is completely separated from the existing RCC management system, i.e. where the management tie with the province RCC association is completely severed. For example, RCCs in Suzhou are all merged with the city bank of Suzhou. Another example is the Shenzhen rural commercial bank, which is completely independent from the Guangdong province RCC association.

Unsurprisingly, large rural commercial banks often emerge from economically developed regions, whereas smaller ones—those that are still under the collective management of the province RCC association—are usually located in relatively backward areas. While strengthening the corpus of LSBs, merging RCCs and setting rural commercial banks have three particular advantages from the center's perspective: (1) clarifying the murky property rights regime associated with small RCCs; (2) enhancing, or at least easing, central oversight; and (3) providing a new source of credit for localities where rural commercial banks decide to set up branches (outside the banks' home provinces).

Turning RCCs to rural commercial banks means that the newly upgraded rural financial institutions (many of which in fact operate also in cities, albeit their rural names) could now operate outside their home counties, cities, and even provinces—when their asset size and quality reach standards required of by the CBRC.

ANNEXURE G: ROVING OFFICIALS, STATIONARY BANKERS

To call the new players in China's banking system *local state* banks does not imply that they take every order from the local government, because local officials' and LSB managers' incentives do not always align. The misalignment stems from their different time horizons, which in turn arises from LSB managers' *de facto* exemption from the cadre rotation rule; local party secretaries and governors are regularly on the move, while LSB managers can remain "stationary" for considerably long periods.

That local officials are regularly transferred to other localities is a well-known feature of the Chinese political system. In fact, this rotation institution is not an invention of the CCP; imperial Chinese dynasties also used it to preempt the rise of localism from weakening central control.[78] At the moment, in every five years, if not sooner depending on local contingencies, both party secretaries and governors across different levels of the Chinese state—provinces, cities, counties, and townships—will all be reshuffled and each transferred, if not promoted or demoted, to a different locality.

This rotation rule is not only applied to party leaders and government officials, but also to bureau heads, such as the local police chief or the head of the local tax bureau. The banker-cadres of the local SOCB branches are not exempt from this either; they are reshuffled within their own systems. For example, the manager of the Beijing branch of Bank of China will be transferred to another megacity or another province, or, to a department of the BOC headquarters, within five years (if neither promotion, demotion nor retirement awaits the individual).

A striking finding of this research is that LSB managers are in general not subject to the rigorous constraints of the rotation institution set up by the center. Mr. ZW, the manager of a city LSB in northeastern China, has been serving in the manager position for about 18 years since the mid-1990s; Mr. QZQ, the head of a provincial LSB in northern China, has been in charge of the bank since 1999, also well over 15 years now;[79] Mr. FZY, the manager of a rural commercial

[78]Ma Debin "Political Institution and Long Run Economic Trajectory: Some Lessons from Two Millennia of Chinese Civilization".

[79]Of course, China had no provincial level LSB back in 1999; Mr. QZQ was the head of the city-level LSB which was the progenitor for the province LSB.

bank in western China, served as the head of the local RCC association from 2000-2008, and as the head of the local rural LSB— upgraded directly from the RCC association—since 2009. In total, he's been the boss of the rural financial institution for 16 years.

The following graphs tests formally the difference between sampled SOCB and LSB managers in terms of their current tenure length, i.e. how long they have been serving in the current bank in the current position in late 2014 and 2015. There are 33 LSB managers (28 city level and 5 province level) and 49 SOCB managers (47 city level and 2 province level). For the SOCB group, the longest tenure served is 5 years, which is the "ceiling" stipulated by the cadre rotation institution. In comparison, the longest tenure served for the LSB group is 20 years! In fact, the LSB manager who had served in the position for 20 years only left the job during the local people's congress election fraud that received nation-wide media attention.

Of course, not all LSB managers choose to stay in their managerial positions for life time once appointed; the politically ambitious can vie for local political positions, while others also have the choice of "*xiahai*", i.e. joining the business world if they wish to. Either choice, however, entails ceasing to serve at the LSB. The point is that LSB managers, compared to local SOCB managers and all other local party cadres and government officials, have had the privilege of serving extraordinarily long tenures—a phenomenon the center is undoubtedly aware of but on which has remained quiescent. After all, it is the center that promised keeping LSBs as *local* financial institutions.

Although local governments have retained the exclusive power to appoint and remove LSB managers, in practice, the roving party secretaries and governors do not often exercise that power—and it is hard for them to exercise it. The institutional anomaly presented by the long tenure of LSB managers means that the relationship between the local government and its LSB cannot be simply reduced to one of the leader and the led. The longer a LSB manager serves in a post, that is, the more entrenched he/she is in the local political economic environment, the more prestige and information—if not formal political power—the manager will acquire vis-à-vis the roving local party cadres and government officials, those that have just been parachuted from outside the locality in particular. In fact, LSB managers are often the very first new officials meet and curry support from when transferred to a new locality.

Therefore, despite sharing a formal hierarchical relationship, the roving officials and the stationary bankers often develop a symbiotic, reciprocal relationship. The

officials need the managers' support in financing local economic development, even in building up relationships with the local large business community that the manager had known for years. The bankers, on the other hand, also need support from roving officials—in facilitating faster expansion of the bank (e.g. land license for new branches), in collecting small firm information, and also, in fending off pressures from the center's regulatory agencies.

Yet, the officials and bankers also diverge significantly in their net incentives. The roving officials' career prospect *and safety* hinges on the *overall* economic development and social stability of the entire jurisdiction; they certainly don't put the LSB's profitability and long-term stability at the center of their concern. Yet, the stationary bankers do. While it is necessary to provide the roving officials speedy loan and credit under politically extenuating circumstances, e.g. the 2008-09 financial crisis, it doesn't serve the managers' interests well if their banks denigrate to the status of the "second fiscal arm of the government".

For the LSB managers, they want their banks to operate based on commercial principles as much as possible in order to maximize profits—part of which flow to their own pockets as shareholders—rather than on political grounds to maximize political gains for the roving officials (e.g. achieving stability by saving value-destroying local SOEs.

What weapons do LSB managers hold against their party bosses? Deeply embedded in local politics and economy, LSB managers have a particular soft power edge over the roving officials: the managers have much better information about and connection with other local political and economic elites, whose support are crucial for the roving officials—especially when they are just parachuted to a locality—to coordinate and lead development during their tenure. Of course, it is not to suggest that local officials cannot kick disobedient LSB managers out, but doing so without legitimate reasons entails paying the cost for mobilizing considerable political resources.

ANNEXURE H: LOAN APPROVAL

Loan approval works differently at the Big 4 banks (or SOCBs) and LSBs and for different kinds of enterprises. Broadly speaking, there are two kinds of loan application, personal loan (*geren daikuan*) and enterprise loan (*duigong daikuan*). For enterprise loan, there are two subcategories, one for big enterprises, which are mostly SOEs, and one for SMEs (*zhongxiao qiye daikuan*), mostly private firms. Now most banks have set up a separate office to handle SMEs loan applications.

For SOCBs, personal loan and SME loan applications have always been approved at the province level bank. For example, when a city-level SOCB receives a loan application from a local SME, the city-level bank only has the power to submit (or not) the application to the provincial headquarters for approval, but the final decision-making power rests with the province headquarters. Thus, the city-level SOCB branch is a gate keeper or first-tier arbitrator for personal and SEM lending.

For non-SME lending, local SOCBs has also recently lost much of their decision-making autonomy. Prior to 2014, city-level SOCBs were able to make loan decisions for loan applications for less than RMB 50 million from “designated” non-SMEs, i.e. SOEs or large private firms. This authority, however, was taken away by the province SOCB headquarters in 2014.

Yet as suggested above, although lower-level SOCBs no longer have loan approval power, they maintain the power to determine which loan applications from local enterprises get to be sent above. But the process is complicated. It is a collective decision, albeit the bank manager, who is almost always the CCP party secretary of the bank branch, has *de facto* veto power in the submission process. For most cases, the bank manager is the last person to look at the loan application. Before he/she gets to see it, the enterprise loan department, the risk analysis department as well as the the vice manager in charge of loan application will have to review it. The process is long and tedious, especially for SMEs.

For LSBs, the story is entirely different. The loan approval process is much faster and easier for all enterprises, especially for SMEs, which are mostly private firms in China. The crucial difference between SOCBs and LSBs, as Chapter 3 of this

paper highlights, is that most LSBs have no headquarters to report to, that their activities are not as closely monitored by central regulators until recently, and that their lower-level branches have greater autonomy in making loan decisions. Thus, the LSBs provided a convenient alternative for enterprises, especially private SMEs, to borrow in time of urgent need. In the city of DY, SME can usually receive a bank loan from the DY LSB within 3-5 business days—a much faster outcome compared to the same transaction at local SOCBs, which could take more than a month.[80]

The argument is not that local SOCBs still do not wish to lend to private SMEs at all, either because they have a much longer history of dealing with local SOEs, or because they have to serve local SOEs for political reasons. Not at all. If local private firms, particularly the large ones, have projects that banks believe will yield high returns, they will compete for it. There is simply no reason to think that local SOCB loan officers simply sit idly by each day waiting to review and submit local SOE loan applications to provincial headquarters. For instance, in the city of PJ in northeastern China, SOCBs competed fiercely amongst themselves and against the LSBs for a project proposed by the biggest local chemical factory, owned by a private firm. One SOCB secured the project because the bank manager acted swiftly by inviting the SOCB's big boss from Beijing to sign the deal with the chemical firm.[81] This all happened in the post-financial crisis period, when many thought that banks were only busy lending to government projects.

[80]Interview JZ160831 Also see http://dongying.niwodai.com/daikuan/article-36203.html

[81]Interview JZ150919.

ANNEXURE I: SURVEY EXPERIMENT

Page 1:

This research is conducted by researchers at Stanford University. The purpose of this study is to better understand the development of the Chinese economy and improvement of firm finance in the country. Your knowledge and expertise in banking will be invaluable to this research. Your participation will take only about 5-10 minutes.

本研究有斯坦福大学学者发起。我们主要希望深入了解中国的经济发展，尤其是企业融资方面的发展。您在银行领域的专业知识对我们的研究弥足珍贵。您的参与大概需要5-10分钟。

If you decide to take this survey, your participation is voluntary, and you may withdraw at any time. The alternative is not to participate. Your answers will be kept completely anonymous and confidential.

我们秉持自愿参与的原则，您可在答卷中途退出。当然，您也可以选择根本不参与。全部答案将完全匿名、保密。

If you have any questions or concerns about this survey or the larger research project, you may contact at adamliu@stanford.edu.

如果您对本研究有任何问题或者疑虑，请通过下面邮箱致信研究者：adamliu@stanford.edu.

If you have any concerns or questions about the research or your rights as a participant, please contact the Stanford Institutional Review Board (IRB) to speak to someone independent of the research team at (650)-723-2480 or toll free at 1-866-680-2906, or email at IRB2-Manager@lists.stanford.edu. You can also write to the Stanford IRB, Stanford University, 3000 El Camino Real, Five Palo Alto Square, 4th Floor, Palo Alto, CA 94306.

您也可以将对问卷的问题，以及作为参与者的权益问题联系斯坦福大学机构评审委员会（IRB），将有专门人员（非项目参与者）为您解答。机构电话是（650）-723-2480,1-866-680-2906(免费电话)，邮件是IRB-Manager@lists.stanford.edu. 您也可以给该机构写信，邮寄地址是：

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If you understand and would like to continue, please click “next”.

如果您对上述文字完全理解并希望继续参与答题，请点击“下一步”。

Page 2:

“You will see information of four sets of firms, such as their sales growth. There are two firms in each set (Firm A and Firm B). Firms in each set belong to the same industry, and their total asset and performance are of similar levels. The firms in each choice set are located in neighboring cities with similar levels of development, but

您将看到4组企业相关信息，如销售增长。每组2个（企业A，企业B）。每组企业属于同行业，且规模和效益大体相当。每组企业坐落在发展相似的毗邻城市。请您仔细比较两个企业并进行选择。

Sample Task for the Survey Experiment

Attributes	Firm A	Firm B
Ownership	{SOE}{private}	…
Connection	{local NPC/CPPCC}{former gov’t official}{no political connections}	…
Sales Growth	{fast} {slow}	…
Banking Market	{intense competition, many LSBs} {lack of competition, SOCBs dominate}	…
Taxation	{big} {small}	…
Employment	{big} {small}	…

企业特点	企业A	企业B
所有制	{国企}{私企}	…
政治关联	{地方人大或政协代表}{曾在政府任职}{无政府、人大、政协经理}	…
销售增长	{较快} {较慢}	…
当地银行	{地方银行林立，竞争激烈}{大行主导，竞争不强}	…
税收贡献	{较大} {较小}	…
就业贡献	{较大} {较小}	…

Following is sample of follow-up questions after the choice tasks:
后续问题：

(1) How many years have you worked in the banking industry?
您在银行工作多少年了？

(2) What kind of bank are you working at? (SOCB, city bank, etc.)
您所在行的类型是（国有大行，城商行，etc.）？

(3) Are you a party member?
您是党员吗？

(4) Did you hold a banking-related college degree (e.g. economics, finance, etc.)?
您的高等教育和银行业相关吗？（如经济学，金融学，等等）

(5) Do you agree that China's banking market is very competitive?
Strongly agree, agree, disagree, strongly disagree
您是否认为中国的银行市场竞争激烈？
十分同意，同意，不同意，十分不同意

(6) Do you agree that internet companies are posing a threat to traditional banking?
Strongly agree, agree, disagree, strongly disagree
您是否认为互联网公司对传统银行业有较大冲击？
十分同意，同意，不同意，十分不同意

(7) Do you agree that central SOEs in China can still secure lending whenever they wish to?
Strongly agree, agree, disagree, strongly disagree
您是否认为央企仍然能够随时取得银行贷款？
十分同意，同意，不同意，十分不同意

(8) What's your rough estimate of the market share (in terms of bank asset) of the "big 4" today?
0% - 100% (Slide bar in Qualtrics)
您推测今天"四大"的银行市场份额能有多少？
0%-100%

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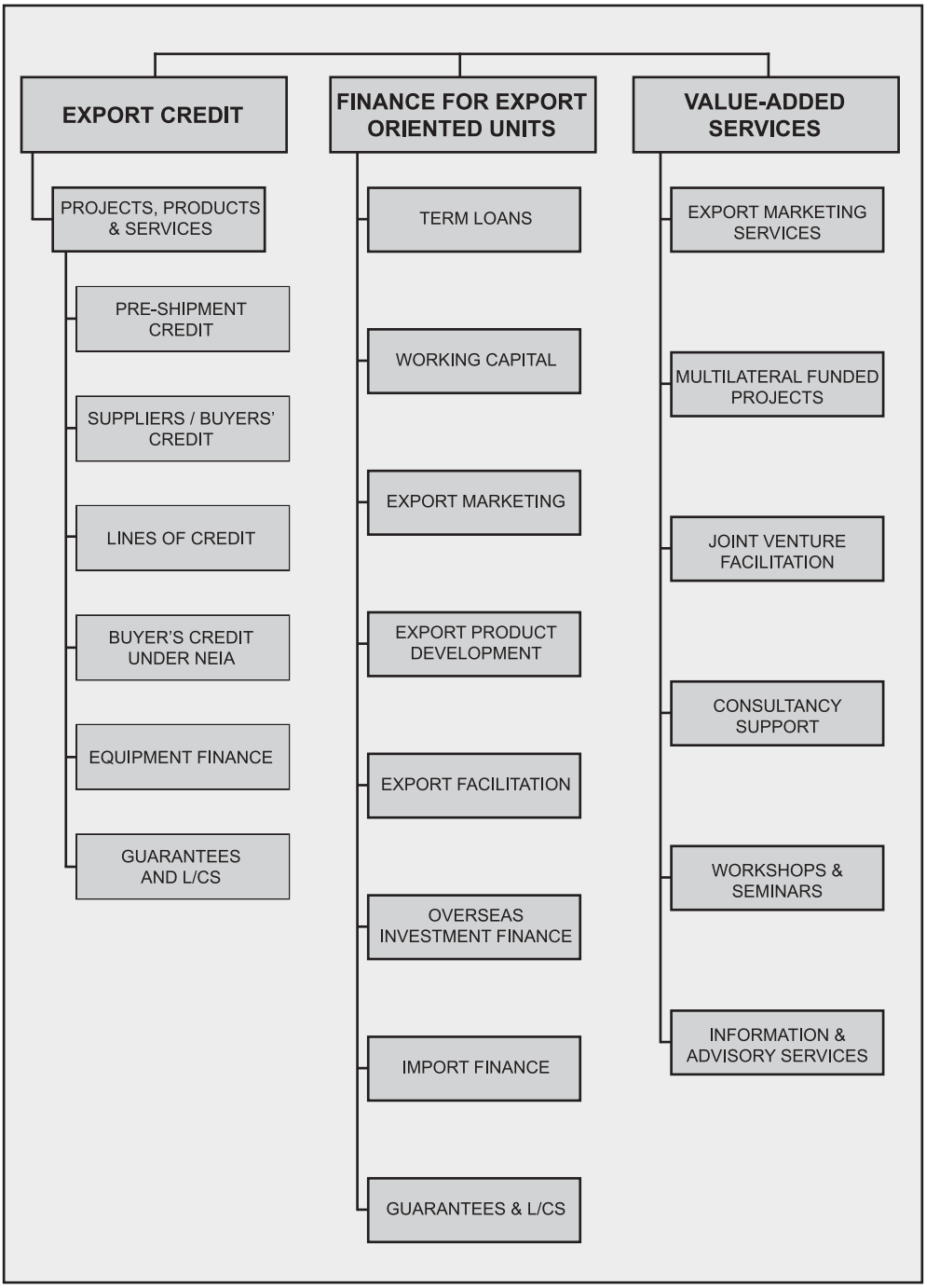

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