Subnational Debt of China: The Politics-Finance Nexus*

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Abstract

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Keywords: Government Debt, Selective Default, Career Concern

JEL Codes: D72, G21, G32, H74

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We provide direct evidence of selective default on government debt when creditors can be identified. Using unique loan-level data, we find that local governments in China choose to default on banks that have weaker political power, as those banks have little influence over local politicians' career advancements. Politically powerful banks experience lower default rates in local government lending. However, when local politicians are highly ranked or connected to national leaders, their promotions are less dependent on loan performance, hence they engage less in selective default. Our findings reveal a politics-finance nexus, which explains why governments do not default more often.

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1. Introduction

In the decade since the global financial crisis, government debt has been rapidly increasing in many countries, giving rise to major concerns worldwide.[1] However, despite limited repercussions for the defaulting government, sovereign defaults are relatively rare (e.g., Eaton and Fernandez (1995); Reinhart, Rogoff and Savastano (2003)). This suggests there may be latent fundamental factors restraining governments from capricious defaults.

In this paper, we aim to explain this puzzle by focusing on government selective defaults, which occur when a government with multiple creditors chooses to default on less consequential creditors. While it has been posited that governments have incentives to selectively default on certain creditors, empirically documenting such behavior has been difficult because creditor identities are rarely observed in the bond market due to the active trading in secondary market (e.g., Broner, Martin and Venture (2010); Gennaioli, Martin and Rossi (2014)). We fill this gap with a large-sample study using a novel dataset on China's subnational debt in which lender identities are known to the borrowers.

Until recently, and in contrast to the active bond markets in the U.S., local governments in China mainly borrowed off-balance-sheet loans via local government financing vehicles (LGFVs).[2] Our loan-level dataset, from the China Banking Regulatory Commission (CBRC), covers about 98% of the bank loans to local governments from 2007 to 2013. Because local governments typically borrow from multiple banks of different ranks within China's political

[1] According to a 2018 OECD report, the 35 OECD countries increased their sovereign debt from US$25 trillion in 2008 to US$43.6 trillion in 2017.

[2] Under the 1994 Budget Law, local governments in China could not incur any debts, so they set up LGFVs—local state-owned enterprises that could legitimately borrow from banks (and later from other sources as well)—to circumvent this restriction. All local government debts are, therefore, off-balance-sheet in our sample period. Figure A1 in the Internet Appendix illustrates the process of such off-balance-sheet borrowing. See Section 2.1 for a detailed discussion.

system, we are able to compare default selections across the different ranks of banks. During our sample period, the China Development Bank (CDB) was ranked highest—the only one ranked at the ministerial level (the same level as provincial governors)—while commercial banks were ranked at sub-ministerial or lower levels.

We find a 1.34% overall default rate, defined as being 90 days overdue, among all loans to local governments that matured during our sample period, and a substantial difference in the loan default rates across lenders: 1.42% for commercial banks and 0.25% for the CDB. Consistent results from multivariate regressions controlling for the loan characteristics and firm×year fixed effects suggest that CDB's lower default rate is not driven by higher-quality borrowers. Furthermore, we find that local governments paid off 99.5% of CDB loans while defaulting on commercial bank loans with the same due time. Such selective defaults are both statistically significant and economically meaningful. When local governments experience financial difficulty (e.g., high fiscal deficits), they engage more in such selective defaults.

Critically, selective defaults appear to depend on the politics-finance nexus between borrowers and lenders. Private firms are less sensitive to political incentives than government entities. We show that the default rates for private firm loans are identical between the CDB and commercial banks. This result is in sharp contrast to our government selective default result. To explore this politics-finance nexus further, we exploit a policy change to CDB's political power: In 2008, the State Council abruptly announced a plan to commercialize the CDB, signaling a reduction in CDB's political power. Our data show that CDB received less preferential treatment from local governments following this change, i.e., the selective default pattern became weaker after the announcement.

We also examine *why* local politicians tend to avoid defaulting on powerful banks such as the CDB. Previous studies have found that government-owned banks exert political influence and can impact career advancement opportunities (e.g., Sapienza (2004); Dinç (2005); Carvalho (2014); Ru (2018)). CDB's relatively high political rank implies the potential to influence a local politician's career, and we indeed find that defaulting on CDB loans reduces the chance of promotion. In contrast, defaulting on loans from lower-ranked commercial banks does not significantly affect local promotions. Therefore, local politicians have an incentive to please politically powerful banks by avoiding defaults.

We further explore heterogeneity in CDB's influence over the promotions of local politicians from different backgrounds. The 25-member Politburo of the Communist Party of China (CPC) is the highest decision-making authority in the country. Local politicians and bureaucrats who are connected to powerful individuals such as members of the Politburo have been shown to have more success in getting promoted (e.g., Shih, Adolph and Liu (2012); Fisman et al. (2018)). Our data support this finding. We also show that the combined effect of political connections (or the lack thereof) and the political rank of the lending bank can have an impact because the promotion prospects of unconnected local politicians are affected to a greater extent by whether they have defaulted on CDB loans. Consequently, unconnected local politicians are much more likely to engage in selective default. In addition, some provincial leaders, such as the party secretary of Shanghai, are themselves members of the Politburo. We find that local governments in those provinces engage significantly less in selective default.

Taken together, our findings reveal the importance of knowing lender identities in making selective default decisions and the apparent role of career concerns in driving such decisions for

local politicians in China. Both factors are lacking in the bond market. Indeed, there were no defaults on local government bonds during our sample period.

Our study mainly contributes to government debt literature. Prior studies have discussed the cost of government defaults, such as the loss of access to capital markets (e.g., Eaton and Gersovitz (1981); English (1996); Rebelo, Wang and Yang (2018)) and direct sanctions by foreign creditors (e.g., Bulow and Rogoff (1989)). However, empirical evidence shows that those punishments are short-lived and not sufficient in effectively disciplining government defaults (e.g., Gelos, Sahay and Sandleris (2011)). It is a long-standing puzzle of why governments do not default more often than observed. Our findings of government selective defaults shed light on this puzzle: governments can default strategically when identities of lenders are known.

This paper is also broadly related to the literature on political connections. In a seminal work, Fisman (2001) shows that political connections play an important role in corporate activities. Other studies have found evidence that politically connected borrowers gain better access to debt financing (e.g., Faccio (2006); Johnson and Mitton (2003); Khwaja and Mian (2005); Faccio, Masulis and McConnell (2006)). This paper provides a complementary perspective to this literature by showing that these connections affect borrower default decisions.

The rest of this paper is organized as follows. In Section 2, we introduce the institutional background of subnational debt in China and develop testable hypotheses. Section 3 presents our data and summary statistics. We provide empirical results in Section 4 and conclude in Section 5.

2. Institutional Background and Hypothesis Development

In this section, we provide background on the relevant institutions involved in the political system and subnational debt in China. We also develop our main hypotheses.

2.1 Chinese local government debt

During our sample period of 2007–2013, local governments in China were prohibited by the 1994 Budget Law from borrowing directly in any form (e.g., bank loans or bond issuances). Under this restriction, local governments raised off-balance-sheet debt by using their wholly-owned special-purpose vehicles, commonly known as LGFVs. The LGFVs borrowed from banks and other sources then passed on the proceeds to local governments. In September 2014, China revised the Budget Law to allow local governments to borrow directly.[3] Thus, all of the local government borrowings in our sample period are off-balance sheet. Between 2002 and 2014, local governments in China increased their off-balance-sheet debt by 16 times from RMB1.46 trillion to RMB24 trillion (see Figures A2 and A3 in the Internet Appendix for more details). This surging debt level posed a looming concern for local government default risks, and China's sovereign credit rating was consequently downgraded by Moody's and Standard & Poor in 2017.[4]

There are three financing sources for LGFVs: bank loans, bond issuances, and shadow banking, such as entrusted loans and trusts (i.e., wealth-management products sold to the public). Figure 1 shows that bank loans are the dominant financing source for LGFVs during our sample period. This result is consistent with other official statistics. For example, in its 2010 survey, the National Audit Office of China reported that bank loans accounted for approximately 80% of total LGFV debt. The bond market started small and has been growing steadily.

[Place Figure 1 about here]

[3] See Section A.1 in the Internet Appendix for a more detailed background of China's fiscal system and policy changes in local government debt.

[4] The risks in China's financial system have been the subject of many public debates and academic studies (e.g., Allen, Qian and Qian (2005); Allen et al. (2019); Song and Xiong (2018)). We provide the first large-sample evidence on the debt default of China's local governments, which complements contemporaneous works (e.g., Bai and Zhou (2018), Bai, Hsieh and Song (2016), Chen, He and Liu (2019), Liu, Lyu and Yu (2017), Huang, Pagano and Panizza (2018), Hachem and Song (2017), Acharya et al. (2019)).

2.2 Government selective default

Prior studies, in particular Reinhart and Rogoff (2008), have discussed government incentives to default on particular types of debts to minimize negative consequences on the local economy. Intuitively, defaulting on a subset of lenders with smaller penalties is preferred to defaulting on all of them. However, it is hard to implement selective defaults in bond markets due to frequent resales (Broner, Martin and Ventura (2010)). The features of China's banking industry and political system make it a unique testbed for examining creditor discrimination theories more closely.

In particular, local governments in China borrow mainly in the form of bank loans that do not have an active secondary market. Moreover, China does not practice formal bankruptcy law nor implement cross-default, such as Chapter 9 of U.S. Bankruptcy Law, as discussed by Gao, Lee and Murphy (2019). Banks in China can also be easily differentiated—commercial banks are considered less critical than the CDB in China's political system, mainly due to their political ranks. The CDB was established in 1994 to support the country's macroeconomic policies and provide financing to strategic industries and infrastructure developments. Although the CDB and the major commercial banks have the same primary shareholders—all central government entities—only the CDB has held a ministerial-level rank, equivalent to the People's Bank of China (the central bank). Commercial banks and other policy banks are at the sub-ministerial level or below.[5] This institutional setting provides an opportunity to test our first hypothesis:

[5] The five major commercial banks (i.e., Industrial and Commercial Bank of China, Bank of China, China Construction Bank, Agricultural Bank of China, and Bank of Communications) and two other policy banks (i.e., the Export-Import Bank of China and the Agriculture Development Bank of China) are at the sub-ministerial level. The 12 joint equity banks are either at the sub-ministerial level or below (e.g., the department level). See a more detailed discussion in Section A.2 in the Internet Appendix.

Hypothesis 1 (Selective Default): *When lenders can be identified, local governments selectively default against less critical banks and avoid defaulting on the critical bank (e.g., the CDB).*

2.3 Politician promotion and selective default

Debt default choice is a means to achieve high utility for local politicians. Career advancement is the primary goal of politicians in many countries (e.g., Nordhaus (1975); MacRae (1977)). Similarly, local politicians in China are motivated to climb the ladder of the political system since higher political rank comes not only with more perks but also greater power and influence. (e.g., Xu (2011); Landry, Lü and Duan (2018)). China has adopted meritocracy in the promotion system of politicians, which is partly based on economic performance (e.g., Li and Zhou (2005)).

Another determinant of local politicians' promotions is the patronage connection**.** According to *Party and Government Leading Cadres Selection and Appointment Rules* in 2002, the promotions of city-level politicians (e.g., city secretary and mayors ranked at the department level) to sub-ministerial-level positions are recommended by provincial leaders and approved by the Organization Department of the Central Committee of the CPC. The "Rules" also state explicitly that candidates should obey directives from the Politburo, the core of the Central Committee and the highest decision-making authority of the CPC (see Section A.3 in the Internet Appendix for more details). Figure 2 illustrates the structure and hierarchy of the political system in China. Fisman et al. (2020) provide a detailed description of the Politburo of the CPC. Connections to Politburo members are critical for city politicians who aspire to higher-level and more powerful government positions (e.g., Shih, Adolph and Liu (2012); Jia, Kudamatsu and Seim (2015)). In short, highly ranked politicians (e.g., national-level leaders) greatly influence local politicians' promotion prospects in China.

[Place Figure 2 about here]

During our study period, the chairman of the CDB, Chen Yuan, was ranked at the ministerial-level and became a subnational leader in 2013. In contrast, the heads of the five major commercial banks are ranked only at the deputy ministerial level, and none were promoted to subnational-level positions. The CDB, therefore, has higher political power and influence on local politicians' promotions than do commercial banks during our sample period.[6] This, in turn, provides an incentive for local politicians to strategically avoid defaulting on the CDB in order to advance their careers unless they have direct connections to politicians ranked higher than the CDB (e.g., Politburo members), and serves as the basis for our second hypothesis:

Hypothesis 2 (Politics-Finance Nexus): *Defaulting on politically powerful banks, i.e., the CDB, hurts local politicians' promotions.*

To formally test our hypotheses, we first examine whether local governments engage in selective defaults against banks with lower political ranks (i.e., commercial banks) and avoid defaulting on the CDB.[7] Second, we explore the fundamental drivers of selective defaults by examining whether the bank loan defaults hurt the promotion chances of local politicians, especially when the loans are from powerful banks. We are particularly interested in whether powerful local politicians (e.g., those who serve in the Politburo or are connected to the Politburo members) are less likely to engage in selective defaults.[8]

[6] In our sample period, 24.8% of the local politicians were promoted. Local politicians with connections to Chen Yuan had much higher promotion likelihood (51.3%) than those connected to the leaders of the five major commercial banks (28.1%). Moreover, the CDB has direct and frequent interactions with provincial governments. Through such interactions, the CDB provides feedback to provincial leaders on the performance of city-level officials.

[7] The borrower selective default patterns in this paper echo Schiantarelli, Stacchini and Strahan (2016), which finds that firms in Italy defaulted more against banks with high levels of past losses.

[8] The literature has also suggested that high political ranks of lenders might discipline defaults since highly ranked or senior politicians have a substantial influence on resource distributions (e.g., Fisman (2001); Cohen, Coval and Malloy (2011); Chen and Kung (2019)). On the other hand, in many countries, highly ranked lenders (e.g., development banks)

3. Data and Summary Statistics

In this section, we describe the three datasets used in this paper: (1) the loan-level dataset on local government borrowing; (2) the dataset on the characteristics of the LGFVs; and (3) the dataset on local governments and the politicians in charge of those governments.

3.1 Data sources and identifying local government debt

Our initial loan-level dataset from the CBRC consists of more than 7 million loan contracts granted by the 19 largest Chinese banks to corporations.[9] It includes all borrowers with an annual credit line greater than RMB50 million (approximately US$8 million) from the period January 2007 to June 2013, which accounts for over 80% of the total bank credit in China. The dataset covers more than 160,000 distinct borrowing firms from all 31 provinces and autonomous regions and operating in all 20 sectors of the Economic Industrial Classification Code in China. For LGFVs, our cross-bank data cover approximately 98% of bank credit, since these financing vehicles are, effectively, large state-owned corporations with high credit lines.[10]

In addition to the comprehensive coverage, our dataset contains detailed loan-level variables including a unique borrowing firm identifier, borrower characteristics (e.g., size, leverage, and location), lending bank characteristics (e.g., the names and locations of branches), and loan characteristics (e.g., loan amount, loan maturity, credit guarantee provider, internal rating, issuing date, maturity date on contracts, and the final actual repayment date). We do not observe loan

have weaker enforcements to discipline defaults due to soft budget constraints (e.g., Kornai (1980); Dewatripont and Maskin (1995); Gormley, Johnson and Rhee (2015)).

[9] Cong et al. (2019) use the same data source from the CBRC.

[10] The National Audit Office reports that the total amount of LGFV bank loans in June 2013 reached RMB7.43 trillion and that local governments in China had accumulated RMB5.53 trillion in bank loan debt and guaranteed another RMB1.9 trillion in bank loan debt. CBRC data recorded a total of RMB7.3 trillion in LGFV bank loans in June 2013.

interest rates. The data are updated monthly from the issuance of a loan until either full repayment or the end of our sample period, allowing us to identify the delinquency status of each loan.

Our second dataset contains information on LGFVs. We start with the official name lists of LGFVs released by the CBRC beginning in 2010. Because LGFVs typically exist for an extended period without changing the nature of their businesses, we are able to manually identify the pre-2010 LGFV names based on the post-2010 names. To improve matching accuracy, we further manually cross-check the borrowing firms' business scopes in the National Enterprise Credit Information Publicity System and identify a total of 11,487 LGFVs between 2007 and 2014. After matching CBRC loan-level data with the official list of LGFV names, we obtain 5,672 LGFVs with bank loan information.

LGFVs may also issue municipal corporate bonds—called *Chengtou* bonds—and we obtain information on all LGFV bond issuances from data vendor "Wind" in China. *Chengtou* bonds are legally corporate bonds, but have implicit government guarantees since LGFVs are owned by local governments (e.g., Chen, He and Liu (2019)). The bond dataset includes detail information on individual *Chengtou* bonds such as the bond issuance date, amount, maturity, bond rating, issuer rating, yield, and the full name of the issuing LGFV. We restrict the *Chengtou* bond sample to the 2007-2013 period and manually match each issuer's name with the unique LGFV identifier in the CBRC data. Table A1 in the Internet Appendix shows that there were zero defaults on LGFV bonds during our sample period.[11]

[11] The first bond default for a local government in China occurred in August 2018 when a financial subsidiary of the Xinjiang Production Construction and Corps defaulted on a RMB500 million, 270-day short-term commercial paper. Bondholders eventually received their full payments.

The third dataset contains the financial and economic variables of local governments and politician profiles. We obtain city economic variables (e.g., GDP and deficit) from the yearbooks of all 290 prefecture-level cities located in 31 provinces and autonomous regions. We manually collect the curriculum vitae of local politicians (i.e., city and provincial political leaders) between 1949 and 2016, and use their work history to identify connections between city politicians (i.e., city secretary or mayor) and Politburo members. A connection between a city politician and a Politburo member is defined by their co-working experience: The connection equals one if the city politician was directly appointed by a provincial governor or a secretary (served as a direct subordinate to provincial leaders) who later became a member of the Politburo. We further require that the city politicians began their term after the provincial politicians began theirs and that they worked for at least 24 months together. In China, it is common for new provincial leaders to replace city politicians with people from the same political group.[12] We consider a city politician (secretary or mayor at the department level) to be promoted when they moved to a position with a higher rank (e.g., deputy minister).

3.2 Summary statistics

Panel A of Table 1 shows the summary statistics for LGFV distribution and borrowing between 2007 and 2013. In 2007, there were a total of 2,380 LGFVs with 23,150 loan issuances, and the amount of newly originated loans reached RMB1.3 trillion. On average, each LGFV borrowed RMB540 million through about 10 loans from 2.3 banks in 2007. The LGFVs increased their borrowing dramatically in 2009, nearly doubling the number and amount of loan issuances in 2008. In 2010, their total amount of outstanding loans increased to RMB7.7 trillion. The number

[12] Jiang (2018) and Jiang and Zeng (2020) use the same method to build the informal inter-politician network in China and find that this network plays an essential role in China's economic activities.

of loan issuances peaked in 2009 and dropped after the end of the RMB4 trillion stimulus package in June 2010. Between 2007 and 2013, the average loan size was approximately RMB65 million, and the average maturity of the loans increased from 3.4 years to 4.1 years.

Panel B shows the summary statistics of loan-level contract terms and city-level economic variables. The CDB issued 6.5% of the loans in our dataset. The overall LGFV loan default rate was 1.3%. 36.1% of the loans had third-party guarantees. To measure political connections, we construct two dummy variables, *CPCTOP25* and *CPCTOP25 Connected*, where *CPCTOP25* equals one if a provincial secretary sits in the Politburo (and zero otherwise), and *CPCTOP25 Connected* equals one if a city politician is connected to a Politburo member at the city-year level. 19.6% of provincial secretaries were Politburo members, and 38.1% of city politicians were connected to Politburo members.

[Place Table 1 about here]

3.3 Loan default by Chinese local governments: Univariate analyses

In this subsection, we present the results from univariate analyses for local government defaults. LGFVs borrow from both the CDB and commercial banks, as shown in Table A2 in the Internet Appendix. Table 2 shows the unconditional loan default patterns across LGFVs, non-LGFV state-owned enterprises (SOEs), and private firms.[13] We use the standard 90-day delinquency to define loan default and exclude loans with a maturity date after March 30, 2013.

Panel A of Table 2 shows the average default rates weighted equally across loans. In column (1), for all CDB loans made to LGFVs, the default rate is 0.25%, which is significantly lower than

[13] We follow prior studies (e.g., Hsieh and Klenow (2009)) to define a firm's ownership type by using its official registration type. According to the "Provisions for the Classification of Types of Enterprise Registration" from the National Bureau of Statistics, SOEs are firms registered as state-controlled enterprises or solely state-owned enterprises. The LGFVs are also SOEs based on corporate registration and wholly state-owned.

the default rate of commercial bank loans to LGFVs (1.42%). This gap in default rates between CDB loans and commercial bank loans (1.17 percentage points) is economically meaningful and statistically significant at the 1% level. Similarly, in column (2), for all CDB loans made to non-LGFV SOEs, the default rate is 0.47%, which is also significantly lower than the default rate of commercial bank loans to non-LGFV SOEs (0.91%). However, the gap in default ratios between CDB and commercial bank loans narrows to 0.44 percentage point for non-LGFV SOEs. Column (3) shows that the default rate on CDB loans to private firms is 1.06%, which is statistically indifferent compared to the commercial bank loan default rate (0.93%). Panel B reports the average default rates weighted by loan size and shows patterns similar to those in Panel A.

In short, compared to LGFVs, the CDB default rate increases for non-LGFV SOE loans and even more so for private firm loans, while the gap in default rates between commercial bank loans and CDB loans narrows for non-LGFV SOE loans and is close to zero for private firms. Note that LGFVs have more direct connections to local governments than non-LGFV SOEs, and private firms are usually the least connected to local governments. Consequently, the CDB appears to have had a higher influence on LGFVs than on other firms, as shown in Table 2.

[Place Table 2 about here]

3.4 Loan default by Chinese local governments: Multivariate analysis

In this subsection, to further understand the default patterns in Table 2, we conduct multivariate regressions of loan defaults on individual loan characteristics, including lenders' identities (the CDB *versus* commercial banks). The dependent variable is the default indicator, and the primary independent variable is the CDB dummy as a measure of a bank's political rank, as discussed in Section 2. Table 3 reports the regression results. The baseline results for LGFV loans

are presented in columns (1) to (3) for three different specifications. In the first specification presented in column (1), we control for loan characteristics (e.g., loan size, maturity, whether a third party guaranteed the loan, and the bank's internal rating) as well as LGFV characteristics (e.g., total assets and leverage), year fixed effects, industry fixed effects, and region fixed effects. We cluster the standard errors by bank since we primarily explore the variation across lenders. The coefficient of *CDB* is −0.037 at the 1% significance level. In column (2), we further control for local economic variables such as local GDP growth and its volatility, fiscal deficit, local loan to GDP ratio, and local legal environments.[14] The coefficient of the CDB dummy is −0.020 and still at the 1% significance level. Moreover, the coefficient of *Fiscal Deficit Ratio* is positive (insignificant), suggesting that distressed local governments have a higher likelihood of default.

In addition to the political rank channel, an alternative explanation for CDB's low default rate is that the CDB could select borrowers with certain characteristics (e.g., profitability, financial need, credit risk, capital structure, and geographic location with various investment opportunities) to achieve better loan performance. To mitigate this concern, we use firm×year fixed effects and exploit variation for the same firm-year and across banks. As shown in column (3), the coefficient of *CDB* remains significantly negative. This means that for the same LGFV in the same year, CDB loans perform considerably better than loans from commercial banks. Table A3 in the Internet Appendix shows the regression results of two robustness tests (e.g., using 180-day delinquency to define loan defaults), and both show significantly lower default rates for CDB loans.

We repeat the OLS regressions for the loans of non-LGFV SOEs and private firms, and results are shown in columns (4) and (5), respectively. Consistent with the unconditional patterns in Table

[14] As shown in Moody's sovereign bond rating methodology, GDP growth and volatility in GDP growth are two important rating factors indicating economic strength. https://www.moodys.com/researchandratings/rating-methodologies.

2, for non-LGFV SOE loans, the coefficient of *CDB* in column (4) is −0.009 at the 1% significance level. This suggests that the CDB still enjoys lower default rates than commercial banks for non-LGFV SOEs, but the magnitude is smaller than that for LGFV loans, as shown in column (3). In column (5), for private firm loans, the coefficient of *CDB* is close to zero and statistically insignificant. This result serves as a placebo test on CDB loan defaults by borrowers who are less connected to the government and suggests that local governments play a role in CDB's low default rates for LGFV loans.

[Place Table 3 about here]

4. Selective Default by Local Governments in China

In this section, we analyze how the lower default rates for CDB loans are engineered through selective default by local governments. We then investigate local politician's promotions and connections with Politburo to understand the drivers for selective default.

4.1. Evidence of selective default

We first investigate how the same local governments make loan payments to different banks. As discussed in Section 2.2, the CDB had a higher political rank than commercial banks during our sample period, which suggests it was in a position to exert a stronger influence over career advancement opportunities for local politicians. Consequently, we would expect local governments to avoid defaulting on CDB loans, leading to a lower default rate for CDB loans to LGFVs, as shown in Table 3.

To formally test Hypothesis 1, we first select local governments—i.e., the prefecture-level cities—that have already defaulted on at least one of their LGFV loans. Then, for each city, we include in our sample all of its LGFV loans from both the CDB and commercial banks that were

due in the same year as the defaulted loan. When a city is in distress, all of its LGFVs could be affected since they are all owned by the same city government. Using this sample, we explore whether local governments selectively choose to default on loans from some banks and pay off others. We find that the default rate of CDB loans is only 0.5%. In other words, distressed local governments paid off 99.5% of their CDB loans despite defaulting on their commercial bank loans that were due at the same time, suggesting the use of selective defaults for local government debt.

For our second test, we perform regression analyses on the selective default behavior of local governments. We regress the default dummy on the CDB dummy and control variables, and control for firm×year fixed effects in all regression specifications. The regression results are reported in column (1) of Table 4. The coefficient of *CDB* is −0.048 at the 1% significance level. This means that when a city defaulted on its loans, the chance that the defaulted loan was from the CDB is 4.8 percentage points lower than from commercial banks.

[Place Table 4 about here]

Intuitively, we would expect selective default behavior to be more prominent for distressed local governments because they would have a greater need for default and stronger incentives to minimize the costs of doing so. To test this, we select distressed cities based on the fiscal deficit ratio, employing a standard approach (e.g., Shi and Svensson (2006)) to calculate the ratio of local government fiscal deficit to local GDP. We define cities as distressed if the fiscal deficit ratio was above the median across all cities over the entire sample period. We then repeat the selective default regressions for these distressed cities. In column (2), we find the coefficient of *CDB* is −0.063 at the 1% significance level. For robustness, we also run regressions using a more stringent standard for identifying distressed cities—those with a fiscal deficit ratio above the 75th quartile—which results in a *CDB* coefficient of −0.097 at the 1% significance level, as shown in column (3).

The magnitudes of the coefficients in columns (2) and (3) are larger than that in column (1). In short, we find that selective defaults are, indeed, concentrated among distressed local governments with a genuine need to default. The results in Table 4 suggest that in China, local governments or local politicians are reluctant to default on CDB loans and instead choose to default on commercial bank loans first.

We also perform the same selective default regressions at the LGFV level, and the results are reported in Table A4 in the Internet Appendix. Specifically, we select all LGFVs with a default history and select only those loans that are due within the same year as the defaulted loans (including the defaulted loans). Consistent with the findings reported in Table 4, we find that LGFVs, as an entity, selectively default on commercial bank loans first and pay off CDB loans.

4.2 Shock to CDB's political rank and selective default

To better understand the relationship between lenders' political power and borrowers' decision to default on a loan or not, we exploit an exogenous change in CDB's political power. In February 2008, the State Council announced a commercialization plan for the CDB, which signaled a reduction in CDB's political power. By 2013, the CDB became a sub-ministerial entity. This reduced political power implies the CDB has a weaker influence over local politicians after the commercialization.

We exploit this exogenous shock to CDB's political power and examine selective default strategies both before and after February 2008 by adding a *Commercialization* dummy—which equals 1 for loans expiring in February 2008 or later, and 0 for loans expiring before February 2008—and repeating the selective default regressions described in Section 4.1. We restrict our sample period to May 2007 to October 2008 (i.e., nine months before and after the

commercialization announcement) to separate the effects of commercialization from the RMB4-trillion stimulus package program that was initiated in November 2008. To further minimize the impacts of potential confounding events, we run regression analyses restricting our sample to a six-month window before and after CDB commercialization shock.

Table 5 shows the results. Column (1) is for the six-month before/after sample window (August 2007 to July 2008). The coefficient of the CDB dummy is −0.005 at the 10% significance level, and the coefficient of the interaction term *CDB*×*Commercialization* is 0.003 at the 5% significance level. We find similar results when using the nine-month before/after sample window in column (2). These findings suggest that before its commercialization, the CDB enjoyed priority status and was typically paid first. However, after the commercialization, this advantage clearly weakened. These results help establish the causal effects of lender political ranks on local government selective default.

[Place Table 5 about here]

4.3. Selective default and career concerns

In this subsection, we test Hypothesis 2 discussed in Section 2.3 by examining the driving forces behind selective defaults by local governments—in particular, whether politicians employ selective defaults in a way that minimizes the costs to their career advancement opportunities.

4.3.1 Political connection, selective default, and promotion

To formally test the role of politicians' career concerns in default selections, we first explore the relationship between local politicians' promotions and LGFV loan performance. For each term of a city's politician (i.e., secretary or mayor), the dummy *Promotion* is equal to 1 if the politician was promoted to a higher-ranked position (e.g., sub-ministerial) after their term ended and 0

otherwise (e.g., horizontal transfer, demotion, retirement). We then calculate the volume of defaulted loans during each term. For example, *Log (Default_CDB)* and *Log (Default_CM)* are the logarithms of 1 plus the default amount of CDB loans and commercial bank loans, respectively. We perform a cross-sectional regression of promotion on default volumes at the city and politician-term level.

Table 6 shows the results. In column (1), the coefficient of *Log (Default_CDB)* is −0.044 at the 5% significance level, suggesting a negative association between local politicians' promotion chances and default volumes on CDB loans. In contrast, the coefficient of *Log (Default_CM)* is insignificant. These findings support Hypothesis 2 that, compared to commercial bank loans, defaults on CDB loans have higher costs for local politicians in terms of career advancement opportunities. This, in turn, explains the selective default patterns we see in Table 4.

We also control for the standard determinants of local politician promotions in China, such as GDP growth, unemployment rate, fiscal deficit ratio, population growth, GDP per capita level, and fiscal revenue. Consistent with prior studies (e.g., Li and Zhou (2005)), we find that GDP growth rates have significantly positive coefficients, while the unemployment rate and fiscal deficit ratio are negatively associated with promotion chances.

Furthermore, we exploit the variation in the inter-politician network in China. *CPCTOP25 Connected* is the dummy for whether the local politician is connected to Politburo members or not. These connections are pre-determined and come from previous working relationships between city politicians and Politburo members, as discussed in Section 3.1. In column (1), the coefficient of *CPCTOP25 Connected* is 0.118 at the 1% significance level, suggesting that connected local politicians enjoy significantly higher promotion chances than the unconnected local politicians.

In column (2), we interact *Log (Default_CDB)* with *CPCTOP25 Connected*, and the coefficient of *Log (Default_CDB)* is −0.064 at the 5% significance level, while the coefficient of the interaction term *Log (Default_CDB)×CPCTOP25 Connected* is 0.067 at the 5% significance level (see column (2) of Table 6). This implies that the connected politicians' promotions are almost barely affected by their defaults on CDB loans, and the negative correlation between CDB default volume and promotion is pronounced only for unconnected local politicians. In columns (3) and (4), we further control for politician fixed effects since many local politicians have served multiple terms in different cities, and we find similar results.

In summary, the results shown in Table 6 suggest that when a city politician's previous superiors were promoted to the Politburo, that politician gained more political capital, thus increasing the chance of promotion and giving him/her more bargaining power with banks. On the other hand, unconnected local politicians appear to have paid a higher price than connected ones in terms of career advancement if they defaulted on CDB loans.

[Place Table 6 about here]

4.3.2 Local politicians' connections and selective default

Next, we study how political connections affect local politicians' default decisions by interacting the *CDB* dummy with *CPCTOP25 Connected* in our selective default regressions. The results are shown in column (1) of Table 7. The coefficient of *CDB×CPCTOP25 Connected* is 0.027 at the 1% significance level, suggesting that local politicians with no connections to Politburo members prioritize payments on CDB loans since their promotions would be adversely affected if they default, as shown in Table 6. In contrast, when city politicians have connections with current Politburo members, they engage significantly less in selective default; CDB is not

prioritized for loan repayment. Again, we control for firm×year fixed effects and further control for the bank×year fixed effects to mitigate concerns that the different loan structures across lenders might drive the apparent selective default patterns.[15]

We also examine the heterogeneity in selective default across the ranks of provincial politicians. As discussed in Section 2.2, the provincial secretaries are generally ranked at the ministerial-level (same as the CDB), while some themselves are members of the Politburo with subnational or national ranks. We construct a dummy *CPCTOP25* to indicate whether the provincial secretaries of the LGFVs are members of the Politburo. In column (2) of Table 7, the coefficient of *CDB×CPCTOP25* is 0.018 at the 10% significance level. This suggests that when provincial secretaries are in the Politburo, they outrank the CDB. Thus, local governments under those highly ranked provincial secretaries would not need to please the CDB by strategically prioritizing repayment of CDB loans over commercial bank loans.

We further explore the heterogeneity of selective default behaviors across LGFVs. In China, LGFVs are affiliated with county, city, or provincial governments. To do so, we interact the *CDB* dummy with the *Higher Hierarchy,* which equals one if the LGFV is at the province-level. The results are shown in column (3) of Table 7. The coefficient of *CDB×Higher Hierarchy* is 0.039 at the 1% significance level, implying that the selective default patterns are more pronounced for LGFVs from lower political hierarchy. City political leaders are generally at the departmental general director level, which is lower than CDB's ministerial-level rank. These results suggest that LGFVs with lower political rank tend to avoid defaulting CDB loans, while provincial LGFVs engage significantly less in selective defaults. Table A5 in the Internet Appendix shows that

[15] We thank the referee for this useful suggestion.

defaults on bank loans are not significantly associated with promotion probabilities for provincial leaders. Thus, provincial-level LGFVs engage less in selective defaults than do the city-level LGFVs.

[Place Table 7 about here]

In summary, the results in Tables 6 and 7 support our hypothesis that when local politicians are powerful, they are less likely to engage in selective defaults to please the CDB. This result sheds light on the fundamental driver underlying selective defaults and the role of the politics-finance nexus in local government loan default in China.

4.4 Alternative explanations

In this subsection, we consider alternative explanations for why local governments may have chosen not to default on CDB loans. First, the CDB might have higher market power than that of commercial banks in the local government debt market due to its focus on infrastructure lending. To show that the CDB effect is indeed through its political power and goes beyond its market power, we restrict our sample to cities with low CDB lending shares for local governments and find that the local governments still tend to selectively default on commercial bank loans rather than on CDB loans (see Table A6 in the Internet Appendix for regression results). Second, besides the CDB and the major five commercial banks, there are twelve joint equity banks in our sample. Those joint equity banks have different ownership from the CDB. We investigate whether bank ownership is related to selective default. We calculate the ratio of state ownership for each bank per year and add it to the selective default regression (see Table A7 in the Internet Appendix). We find that (1) local governments default less on banks with higher state-ownership, but this result is statistically insignificant; and (2) the coefficients of the *CDB* dummy remain negative and

statistically significant. These results suggest that the lower default rate for the CDB in government lending is not due to its higher state ownership.

5. Conclusion

The literature on government debt default has long posited that governments have incentives to default selectively when they can identify lenders. However, supportive empirical evidence for this conjecture has been minimal, due mainly to unobservable lender identities. Using comprehensive loan-level data on subnational debt in China, we find that local governments choose to default on commercial bank loans rather than on loans from the politically powerful CDB. This is the first empirical evidence for government selective default on subnational debt when the identities of the creditors are known.

We provide evidence for a politics-finance nexus that government selective default is driven by career concerns because defaulting on powerful banks can hurt the promotion prospects of local politicians. Such a mechanism provides a new explanation as to why governments have not defaulted more often than observed given the seemingly low cost of default. While the political environment of China is different from western countries, the broad implication of our findings is that governments default strategically when the identities of lenders are known.

Appendix Table: Variable Definitions

Variable	Definition
CDB	Dummy variable for whether the loan is from the CDB or not.
Default	Dummy variable for whether the maturing loan stays in delinquency over 90 days or not. We exclude the loan contracts with expiration dates after March 30, 2013, which do not have records of loan repayments for at least 90 days.
Bank Loan Rating	A categorical variable for internal loan ratings from one to five. One is the best rating, and five is the worst rating.
Log(Loan Size)	The natural logarithm of one plus loan amount, in units of RMB 1 million.
Log(Maturity)	The natural logarithm of one plus loan maturity, in units of years.
Guaranteed	Dummy for whether the loan has a third-party guarantee or not.
Log(Assets)	The natural logarithm of one plus the assets of borrowers, in units of RMB 1 million
Leverage	The leverage ratio of borrowers, i.e., total liabilities divided by total assets per year.
Local GDP Growth	The annual GDP growth ratio at the city-year level, i.e., $(GDP_t - GDP_{t-1})/GDP_{t-1}$
Local GDP Growth Volatility	The standard deviations of variable *Local GDP Growth* over the past five years in the city.
Local Loan/GDP	The ratio of the total LGFV outstanding loan amount over the local GDP level at the city-year level.
Legal Enforcement	The lawyers per capita, i.e., the number of lawyers among 10,000 citizens at the province-year level.
Fiscal Deficit Ratio	The ratio of local government fiscal deficit (fiscal expenses minus fiscal revenues) over local GDP at the city-year level.
Higher Hierarchy	Dummy for whether the loan borrower (i.e., LGFV) is at the province-level (the highest level) or not, i.e., it equals to one for province-level LGFV and equals to zero for the city- or county-level LGFV.
CPCTOP25	Dummy that takes the value of one if the provincial secretary of the LGFV is a member of the Politburo of the CPC Central Committee (around 25 people for each term) and zeroes otherwise.
CPCTOP25 Connected	Dummy that takes the value of one if either the city mayor or secretary has connections (i.e., has ever worked as the direct subordinates) with a member in the Politburo of the CPC Central Committee. Following Jiang (2018), we restrict the connections on that the city politicians began their term only after the provincial politicians began theirs and worked together for at least 24 months. We exclude the city politicians who are in

	the Politburo (e.g., Beijing, Shanghai, Chongqing, and Tianjin).
Promotion	Dummy for whether a city politician (i.e., secretary or mayor at the prefectural level city) is promoted from the department level position to a higher ranked position (e.g., sub-ministerial) after the term or not.
Log(Default_CDB)	The natural logarithm of one plus the aggregate amount of defaulted CDB loans (in units of RMB 1 million) at the city politician-term level in prefectural-level cities.
Log(Default_CM)	The natural logarithm of one plus the aggregate amount of defaulted commercial bank loans (in units of RMB 1 million) at the city politician-term level in prefectural-level cities.
GDP Growth During Tenure	The geometric average annual growth of city GDP level at the city politician-term level in prefectural-level cities.
GDP per Cap During Tenure	The average of the natural logarithm of GDP per capita at the city politician-term level in prefectural-level cities.
ΔUnemployment Rate Change During Tenure	The change of annual unemployment rate (i.e., the total number of unemployed in the city divided by the total labor force in this city) between the first and last years of city politician's term in prefectural-level cities.
Population Growth During Tenure	The geometric average annual growth of the city population level at the city politician-term level in prefectural-level cities.
Fiscal Deficit Ratio During Tenure	The average annual city fiscal deficit ratio (i.e., city fiscal deficit over city GDP) at the city politician-term level in prefectural-level cities.
Fiscal Revenue During Tenure	The average of city fiscal revenue at the city politician-term level in prefectural-level cities.
Bank State Ownership	The ratio of shares held by the top five shareholders that are all central government entities, i.e., the *Ministry of Finance*, the *China Investment Corporation*, the *Wutongshu Investment Platform Corporation* (wholly owned by the *State Administration of Foreign Exchange*), the *China Securities Finance Corporation*, and the *National Social Security Fund*.
Commercialization	A dummy for whether the loan's expiring month is after Feb 2008 (the first announcement of CDB's commercialization plan) or not.

References

Acharya, V., Qian, J., Su, Y., Yang, Z., 2019. In the shadow of banks: Wealth management products and issuing banks' risk in China. Unpublished working paper. New York University.

Allen, F., Qian, J., Qian, M., 2005. Law, finance, and economic growth in China. *Journal of Financial Economics* 77, 57-116.

Allen, F., Qian, Y., Tu, G., Yu, F., 2019. Entrusted loans: A close look at China's shadow banking system. *Journal of Financial Economics* 133, 18-41.

Bai, C., Hsieh, C., Song, Z., 2016. The long shadow of a fiscal expansion. *Brookings Papers in Economic Activity* 129-181 (Fall Issue).

Bai, J., Zhou, H., 2018. The funding cost of Chinese local government debt. Unpublished working paper. Tsinghua University.

Broner, F., Martin, A., Ventura, J., 2010. Sovereign risk and secondary markets. *American Economic Review* 100, 1523-1555.

Bulow, J., Rogoff, K., 1989. A constant recontracting model of sovereign debt. *Journal of Political Economy* 97, 155-178.

Carvalho, D., 2014. The real effects of government-owned banks: Evidence from an emerging market. *Journal of Finance* 69, 577-609.

Chen, Z., He, Z., Liu, C., 2019. The financing of local government in China: Stimulus loan wanes and shadow banking waxes. *Journal of Financial Economics*, forthcoming.

Chen, T., Kung, J., 2019. Busting the princelings: The campaign against corruption in China's primary land market. *Quarterly Journal of Economics* 134, 186-226.

Cohen, L., Coval, J., Malloy, C., 2011. Do powerful politicians cause corporate downsizing? *Journal of Political Economy* 119, 1015-1060.

Cong, L., Gao, H., Ponticelli, J., Yang, X., 2019. Credit allocation under economic stimulus: Evidence from China. *Review of Financial Studies* 32, 3412-3460.

Dewatripont, M., Maskin, E., 1995. Credit and efficiency in centralized and decentralized economies. *Review of Economic Studies* 62, 541-555.

Dinç, S., 2005. Politicians and banks: Political influences on government-owned banks in emerging markets. *Journal of Financial Economics* 77, 453-479.

Eaton, J., Gersovitz, M., 1981. Debt with potential repudiation: Theoretical and empirical analysis. *Review of Economic Studies* 48, 289-309.

Eaton, J., Fernandez, R., 1995. Sovereign debt. *Handbook of International Economics* 3, 2031-2077.

English, W., 1996. Understanding the costs of sovereign default: American state debts in the 1840's. *American Economic Review* 86, 259-275.

Faccio, M., 2006. Politically connected firms. *American Economic Review* 96, 369-386.

Faccio, M., Masulis, R., McConnell, J., 2006. Political connections and corporate bailouts. *Journal of Finance* 61, 2597-2635.

Fisman, R., 2001. Estimating the value of political connections. *American Economic Review* 91, 1095-1102.

Fisman, R., Shi, J., Wang, Y., Xu, R., 2018. Social ties and favoritism in Chinese science. *Journal of Political Economy* 126, 1134-1171.

Fisman, R., Shi, J., Wang, Y., Wu, W., 2020. Social ties and the selection of China's political elite. *American Economic Review*, forthcoming.

Gao, P., Lee, C., Murphy, D., 2019. Municipal borrowing costs and state policies for distressed municipalities. *Journal of Financial Economics* 132, 404-426.

Gelos, R., Sahay, R., Sandleris, G., 2011. Sovereign borrowing by developing countries: What determines market access? *Journal of International Economics* 83, 243-254.

Gennaioli, N., Martin, A., Rossi, S., 2014. Sovereign default, domestic banks, and financial institutions? *Journal of Finance* 69, 819-866.

Gormley, T., Johnson, S., Rhee, C., 2015. Ending "Too Big To Fail": Government promises vs. investor perceptions. *Review of Finance* 19, 491-518.

Huang, Y., Pagano, M., Panizza, U., 2018. Local crowding out in China. *Journal of Finance,* forthcoming.

Hachem, K., Song, Z., 2017. Liquidity regulation and credit booms: Theory and evidence from China. Unpublished working paper. Chicago University.

Hsieh, C., Klenow, P., 2009. Misallocation and manufacturing TFP in China and India. *Quarterly Journal of Economics* 124, 1403-1448.

Jia, R., Kudamatsu, M., Seim, D., 2015. Political selection in China: The complementary roles of connections and performance. *Journal of the European Economic Association* 13, 631-668.

Jiang, J., 2018. Making bureaucracy work: Patronage networks, performance incentives, and economic development in China. *American Journal of Political Science* 62, 982-999.

Jiang, J., and Zeng, Y., 2020. Countering capture: Elite networks and government responsiveness in China's land market reform. *Journal of Politics* 1, 13-28.

Johnson, S., Mitton, T., 2003. Cronyism and capital controls: Evidence from Malaysia. *Journal of Financial Economics* 67, 351-382.

Khwaja, A., Mian, A., 2005. Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics* 120, 1371-1411.

Kornai, J., 1980. The Economics of Shortage. North-Holland, Amsterdam.

Landry, P., Lü, X., Duan, H., 2018. Does performance matter? Evaluating political selection along the Chinese administrative ladder. *Comparative Political Studies* 51, 1074-1105.

Li, H., Zhou, L., 2005. Political turnover and economic performance: The incentive role of personnel control in China. *Journal of Public Economics* 89, 1743-1762.

Liu, L.X., Lyu, Y., Yu, F., 2017. Implicit government guarantee and the pricing of Chinese LGFV debt. Unpublished working paper. Peking University.

MacRae, C., 1977. A political model of the business cycle. *Journal of Political Economy* 85, 239-263.

Nordhaus, W., 1975. The political business cycle. *Review of Economic Studies* 42, 169-190.

Rebelo, S., Wang, N., Yang, J., 2018. Rare disasters, financial development, and sovereign debt. Unpublished working paper. Columbia University.

Reinhart, C., Rogoff, K., Savastano, M., 2003. Debt intolerance. *Brookings Papers on Economic Activity* 1, 1-74.

Reinhart, C., Rogoff, K., 2008. Is the 2007 US sub-prime financial crisis so different? An international historical comparison. *American Economic Review* 98, 339-44.

Ru, H., 2018. Government credit, a double-edged sword: Evidence from the China Development Bank. *Journal of Finance* 73, 275-316.

Sapienza, P., 2004. The effects of government ownership on bank lending. *Journal of Financial Economics* 72, 357-384.

Schiantarelli, F., Stacchini, M., Strahan, P., 2016. Bank quality, judicial efficiency and borrower runs: Loan repayment delays in Italy. NBER working paper.

Shi, M., Svensson, J., 2006. Political budget cycles: Do they differ across countries and why? *Journal of Public Economics* 90, 1367-1389.

Shih, V., Adolph, C., Liu, M., 2012. Getting ahead in the communist party: Explaining the advancement of central committee members in China. *American Political Science Review* 106, 166-187.

Song, Z., Xiong, W., 2018. Risks in China's financial system. *Annual Review of Financial Economics* 10, 261-286.

Xu, C., 2011. The fundamental institutions in China's reforms and development. *Journal of Economic Literature* 49, 1076-1151.

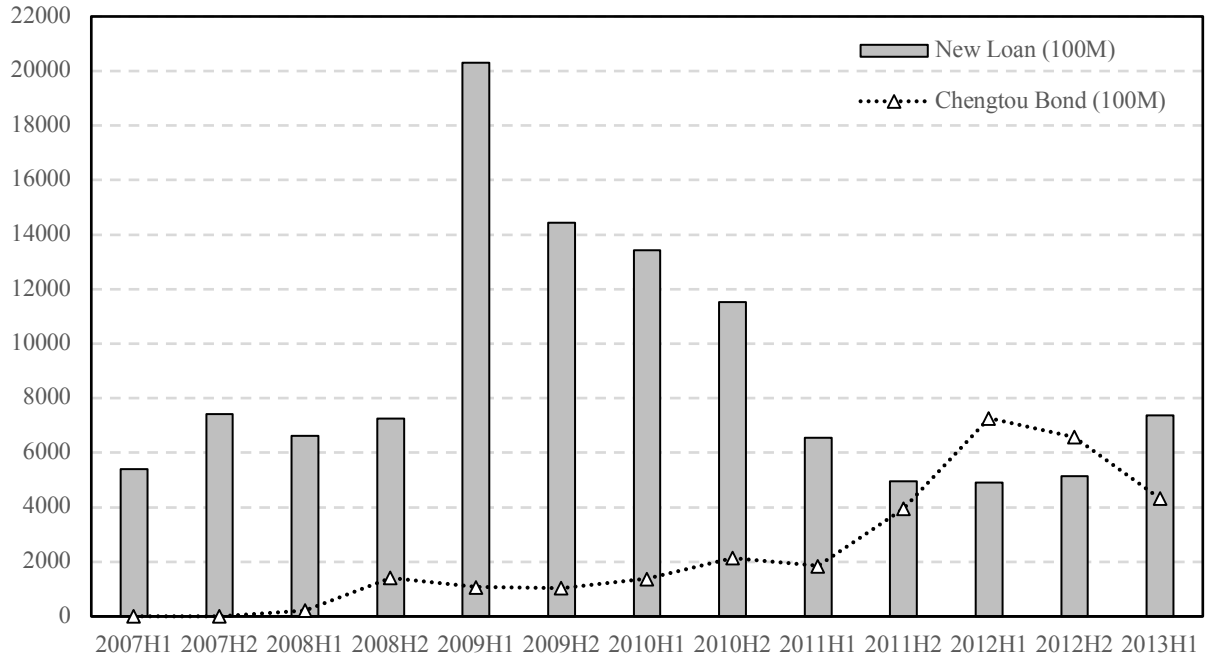

Figure 1: Debt Financing to China Local Governments, 2007-2013. This figure plots the new debt borrowed by local government financing vehicles in China at the semi-annual level. The grey bars represent the amount of bank loan issuance. The dashed line shows the amount of urban construction and investment bond (i.e., "*Chengtou*" bond) issuance. The unit for the vertical axis is in RMB100 million.

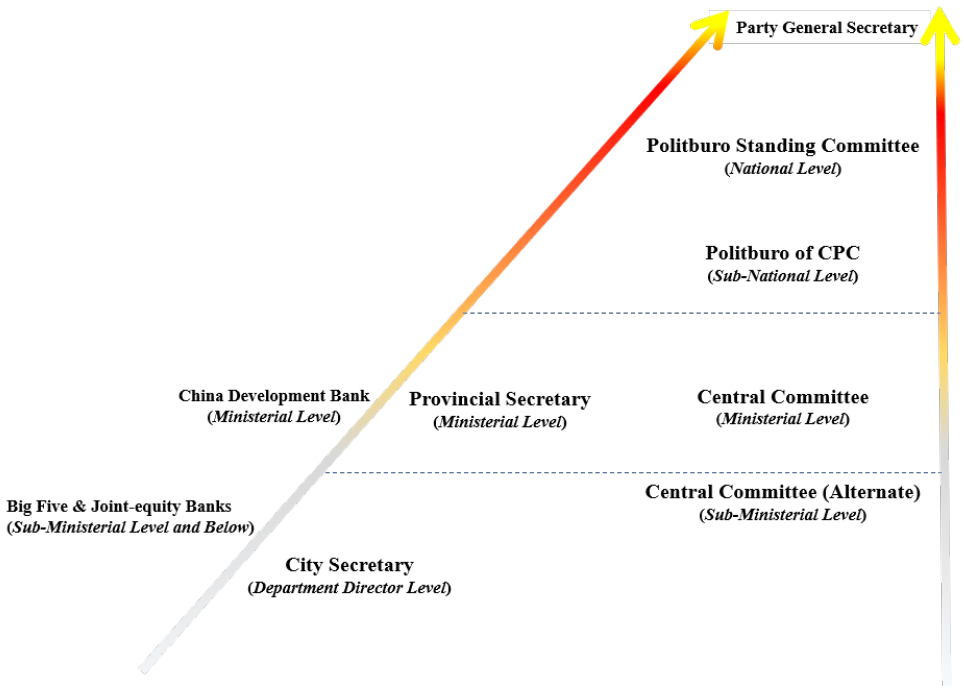

Figure 2: The Hierarchy of the Government and the Communist Party of China. This figure plots the structure and hierarchy of the political system in China. In particular, the Politburo Standing Committee of CPC (including Party General Secretary, e.g., President Xi Jinping) is at the top with national ranks. The other members of the Politburo rank at the subnational level. The next level is the Central Committee that is comprised of approximately 200 full members at the ministerial level and approximately 170 alternate members at the sub-ministerial level. The provincial governors and secretaries usually rank at the ministerial level and are the members of the Central Committee, while some of them are the members of the Politburo with subnational ranks. The members in the standing committee of the Politburo enjoy national ranks (the highest rank). The city secretaries and mayors rank at the departmental level that is one level below deputy ministers. During our sample period, the CDB ranks at the ministerial level, while the five major commercial banks and the twelve joint-equity commercial banks rank at the sub-ministerial level or below.

Table 1: Summary Statistics

This table shows the summary statistics of bank loan contracts to local government financing vehicles (LGFVs). In Panel A, Columns (1) to (7) show summary statistics for new loan issuances, and columns (8) to (10) are for outstanding loans. *# LGFVs* is the total number of LGFVs with bank loans per year. *# Loans* is the total number of loans issued per year. *Total Amount* in column (3) is the total amount of newly issued loans, and *Total Amount* in column (10) is the total amount of loans outstanding per year, in units of trillion RMB. *#Loans per LGFV* is the average number of loans for each LGFV per year. *Loan Amount* is the average total loan amount borrowed by each LGFV per year, in units of billion RMB. *Avg. Maturity* is the average loan maturity across all loans borrowed by each LGFV per year, in units of years. *# Banks per LGFV* is the average number of banks that lend to each LGFV per year. Panel B reports the descriptive statistics for the main variables used in our analyses. See Appendix Table for detailed variable definitions.

Panel A: Sample distribution

	New Loans							Outstanding Loans		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	#LGFVs	#Loans	Total Amount	#Loans per LGFV	Loan Amount	Avg. Maturity	#Banks per LGFV	#LGFVs	#Loans	Total Amount
2007	2,380	23,150	1.3	9.7	0.5	3.4	2.3	2,837	37,174	3.1
2008	2,678	24,296	1.4	9.1	0.5	3.5	2.4	3,248	45,216	3.8
2009	4,412	47,539	3.5	10.8	0.8	4.0	2.8	4,725	65,693	6.6
2010	3,772	39,290	2.5	10.4	0.7	4.1	2.3	4,857	73,806	7.7
2011	2,256	17,564	1.1	7.8	0.5	3.9	2.0	4,520	70,556	7.4
2012	1,946	14,829	1.0	7.6	0.5	4.0	2.0	4,194	67,216	7.3
2013	1,733	9,406	0.7	5.4	0.4	4.1	1.7	4,100	65,315	7.3
All	5,672	176,074	11.5	31.1	2.1	4.1	3.4			

Panel B: Summary statistics

	Mean	Median	Std. Dev.	P25	P75
CDB	0.065	0.000	0.246	0.000	0.000
Default	0.013	0.000	0.094	0.000	0.000
Bank Loan Rating	1.155	1.000	0.411	1.000	1.000
Log(Loan Size)	3.630	3.714	1.167	2.890	4.511
Log(Maturity)	0.859	0.693	0.423	0.606	1.099
Guaranteed	0.361	0.000	0.480	0.000	1.000
Log(Assets)	12.993	12.973	1.506	11.915	14.115
Leverage	0.640	0.642	0.192	0.514	0.767
Local GDP Growth	0.188	0.165	0.339	0.121	0.197
Local GDP Growth Volatility	0.072	0.044	0.209	0.032	0.057
Fiscal Deficit Ratio	0.014	0.012	0.007	0.011	0.016
Local Loan/GDP	1.217	1.134	0.557	0.731	1.710
Legal Enforcement	2.188	1.513	2.269	1.102	2.003
Promotion	0.245	0.000	0.430	0.000	0.000
CPCTOP25	0.196	0.000	0.397	0.000	0.000
CPCTOP25 Connected	0.381	0.000	0.486	0.000	1.000

Table 2: Univariate Analyses of Loan Default

This table shows the univariate tests on default rates between the loans from the CDB and the loans from 17 commercial banks. Column (1), (2), and (3) are for loans to LGFVs, non-LGFV SOEs, and private firms, respectively. Panel A shows average default rates equally weighted across loans. Panel B reports average default rates weighted by loan sizes. We filter the loan contracts whose expiration date is beyond March 30, 2013, without a record of whether the loan repayment is late or not for at least 90 days in our sample period. Mean differences are the default rate differences between the loans from the CDB and the loans from 17 commercial banks, and T-statistics are reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Simple average

	LGFVs	Non-LGFVs (SOEs)	Private Firms
Mean	(1)	(2)	(3)
All	1.34%	0.91%	0.94%
Loans from CDB	0.25%	0.47%	1.06%
Loans from 17 commercial banks	1.42%	0.91%	0.93%
Mean-difference (*T*-statistics)	-1.17%*** (-16.84)	-0.44%** (-2.39)	0.13% (0.92)

Panel B: Weighted average

	LGFVs	Non-LGFVs (SOEs)	Private Firms
Mean	(1)	(2)	(3)
All	0.99%	1.24%	1.25%
Loans from CDB	0.11%	0.47%	0.92%
Loans from 17 commercial banks	1.06%	1.22%	1.25%
Mean-difference (*T*-statistics)	-0.95%*** (5.57)	-0.75%*** (-3.08)	-0.33% (-1.35)

Table 3: Loan Default across Banks

This table shows the results of the OLS regressions of default probability on bank identities. The dependent variable is a dummy variable for whether the loan is in default (i.e., over 90 days being delinquent) or not, and the main independent variable *CDB* is a dummy variable for whether the loan is from the CDB or not. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, and *Guaranteed* in all columns. Columns (1) to (3) are restricted to the LGFV loan sample. We control for LGFV characteristics (i.e., *Log(Assets)* and *Leverage)*, year-, industry-, and region fixed effects in column (1) and replace the industry and region fixed effects by firm fixed effects in column (2). Column (2) also controls for local government characteristics: *Local GDP Growth*, *Local GDP Growth Volatility*, *Fiscal Deficit Ratio*, *Local Loan/GDP*, and *Legal Enforcement*. Column (3) controls for firm×year fixed effects. Column (4) reports the regression results for the subsample of non-LGFV SOEs, and column (5) reports the regression results for the subsample of private borrowers. The firm×year fixed effects are also included in both columns (4) and (5). Industry classifications are based on the 2-digit code in Industrial Classification of the National Economy (GB/T 4754-2011) released by China's National Bureau of Statistics (NBS). Based on the data published by NBS, there are four grand regions in China: Northeast, East, Central, and West. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

(*To be continued*)

Table 3: Loan Default across Banks — *continued*

	Default				
	LGFV			Non-LGFV	Private
	(1)	(2)	(3)	(4)	(5)
CDB	-0.037***	-0.020***	-0.018***	-0.009***	0.002
	(-5.91)	(-5.61)	(-5.49)	(-4.75)	(1.17)
Bank Loan Rating	0.062***	0.040***	0.036***	0.092***	0.044***
	(4.68)	(5.80)	(8.07)	(14.56)	(8.38)
Log(Loan Size)	0.001*	-0.001	-0.001	-0.000	0.000
	(1.79)	(-1.19)	(-0.91)	(-0.27)	(0.10)
Log(Maturity)	-0.009***	-0.014***	-0.010***	-0.029***	-0.008***
	(-8.84)	(-6.18)	(-5.52)	(-6.20)	(-8.77)
Guaranteed	-0.003**	-0.000	0.000	0.000	0.000
	(-2.29)	(-0.22)	(0.43)	(0.10)	(0.92)
Log(Assets)	-0.003***	-0.034***			
	(-3.18)	(-5.79)			
Leverage	0.015**	0.016***			
	(2.07)	(3.88)			
Local GDP Growth		0.004			
		(0.86)			
Local GDP Growth Volatility		0.023			
		(1.44)			
Fiscal Deficit Ratio		0.034			
		(0.96)			
Local Loan/GDP		0.003			
		(1.31)			
Legal Enforcement		-0.001			
		(-1.47)			
Year FE	Yes	Yes	No	No	No
Industry FE	Yes	No	No	No	No
Region FE	Yes	No	No	No	No
Firm FE	No	Yes	No	No	No
Firm×Year FE	No	No	Yes	Yes	Yes
No. Obs.	115,797	114,092	113,238	589,958	4,506,956
Adj. R^2	0.104	0.291	0.450	0.392	0.459

Table 4: Selective Default across Banks

This table shows the results of the OLS regressions for selective default. The dependent variable is the dummy for whether the loan is in default (i.e., over 90 days being delinquent) or not, and the main independent variable *CDB* is a dummy variable for whether the loan is from the CDB or not. Column (1) reports the regression results for local government selective default, and the sample is restricted to loans in the city-year that has at least one default case in any bank in that year. Columns (2) and (3) report the results of the OLS regressions of selective default for distressed local governments. We stratify cities into distressed and non-distressed ones according to the city fiscal deficit ratio that is the ratio of local government fiscal deficit over local GDP. Columns (2) uses the median value of fiscal deficit ratios across cities as the cut-off to define distressed cities, and column (3) uses the 75th quartile of fiscal deficit ratios across cities as the cut-off. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed*, and firm×year fixed effects in all columns. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default		
	Full Sample	Deficit above median	Deficit above 75th quartile
	(1)	(2)	(3)
CDB	-0.048***	-0.063***	-0.097***
	(-4.99)	(-4.97)	(-4.62)
Bank Loan Rating	0.096***	0.145***	0.182***
	(9.06)	(8.93)	(7.63)
Log(Loan Size)	-0.002	-0.003	0.003
	(-0.95)	(-0.76)	(0.80)
Log(Maturity)	-0.024***	-0.028**	-0.050**
	(-4.40)	(-2.33)	(-2.30)
Guaranteed	0.002	0.002	-0.003
	(0.62)	(0.44)	(-0.33)
Firm×Year FE	Yes	Yes	Yes
No. Obs.	31,015	12,250	5,075
Adj. R^2	0.498	0.555	0.585

Table 5: CDB Commercialization Reform and Selective Default

This table shows the results of the OLS regressions for selective default on CDB commercialization announcement shock in February 2008. The dependent variable is the dummy for whether the loan is in default (i.e., over 90 days being delinquent) or not. *Commercialization* is a dummy for whether the loan's expiring month is after February 2008 or not. The main independent variable is the interaction of *CDB×Commercialization*. The sample is restricted to loans in the city-year with at least one loan default case. Column (1) reports the regression results for the 6-month event window from August 2007 to July 2008, and column (2) reports the results for the 9-month event window from May 2007 to October 2008. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed,* LGFV characteristics (i.e., *Log(Assets)* and *Leverage)*, and firm×year fixed effects in all columns. Robust standard errors are clustered by bank. See Appendix Table for variable definitions. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default	
	(1)	(2)
	Six-month window	Nine-month window
CDB×Commercialization	0.003**	0.015*
	(2.24)	(1.65)
Commercialization	-0.005	-0.007
	(-1.22)	(-0.86)
CDB	-0.005*	-0.023**
	(-1.66)	(-2.33)
Bank Loan Rating	0.006	0.018*
	(1.00)	(1.75)
Log(Loan Size)	0.002	0.001
	(1.29)	(0.91)
Log(Maturity)	-0.007	-0.007**
	(-0.82)	(-2.46)
Guaranteed	0.004**	0.005***
	(2.41)	(3.32)
Controls	Yes	Yes
Firm×Year FE	Yes	Yes
No. Obs.	7,615	11,636
Adj. R^2	0.660	0.581

Table 6: Politician Promotion and Local Government Default

This table shows the impact of LGFV loan performance on city politicians' promotions. We perform the cross-sectional OLS regressions at the city politician-term level in prefectural-level cities. The dependent variable is the dummy *Promotion* that is equal to 1 if the city politician (city mayor or secretary) is promoted from the department level to a higher ranked position (e.g., sub-ministerial) after the term and 0 otherwise (e.g., the same rank as of department level, demotion, retirement). For each city politician term, *Log(Default_CDB)* and *Log(Default_CM)* are the logarithms of one plus the default amount of CDB loans and commercial bank loans, respectively. *CPCTop25 Connected* is the dummy for whether the city politician has any connections to the Politburo members during the term. We also control *GDP Growth During Tenure*, *ΔUnemployment Rate Change During Tenure*, *Fiscal Deficit Ratio During Tenure*, *Population Growth During Tenure*, *GDP per Cap During Tenure*, and *Fiscal Revenue During Tenure* in all regressions. We further control for politician fixed effects in columns (3) and (4). See Appendix Table for variable definitions. Robust standard errors are clustered by politician. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

(*To be continued*)

Table 6: Politician Promotion and Local Government Default — *continued*

	Promotion			
	(1)	(2)	(3)	(4)
Log(Default_CDB)	-0.044**	-0.064**	-0.030*	-0.045**
	(-2.33)	(-2.36)	(-1.73)	(-2.10)
Log(Default_CM)	0.005	0.005	0.006	0.002
	(0.71)	(0.53)	(0.74)	(0.29)
CPCTop25 Connected	0.118***	0.112***		
	(3.97)	(3.47)		
Log(Default_CDB)×CPCTop25 Connected		0.067**		0.049*
		(2.08)		(1.86)
Log(Default_CM)×CPCTop25 Connected		0.004		0.011
		(0.35)		(1.14)
GDP Growth During Tenure	0.400**	0.417**	0.364*	0.386**
	(2.15)	(2.20)	(1.94)	(2.02)
ΔUnemployment Rate Change During Tenure	-0.447	-0.441	-0.298	-0.295
	(-1.52)	(-1.49)	(-1.04)	(-1.02)
Fiscal Deficit Ratio During Tenure	-0.143	-0.150	-0.078	-0.078
	(-0.60)	(-0.62)	(-0.33)	(-0.33)
Population Growth During Tenure	0.568	0.556	0.429	0.454
	(1.00)	(0.96)	(0.83)	(0.86)
GDP per Cap During Tenure	-0.017	-0.017	-0.015	-0.015
	(-1.33)	(-1.35)	(-1.22)	(-1.26)
Fiscal Revenue During Tenure	-0.252	-0.196	-0.287	-0.218
	(-0.89)	(-0.66)	(-1.08)	(-0.77)
Politician FE	No	No	Yes	Yes
No. Obs.	1,790	1,790	1,790	1,790
Adj. R^2	0.033	0.034	0.211	0.213

Table 7: Political Ranks and Selective Default

This table shows the results of the OLS regressions for LGFV selective default on LGFV political status in various forms. The sample is restricted to loans in the city-year with at least one loan default case. The dependent variable is the dummy for whether the loan is in default (i.e., over 90 days being delinquent) or not. The main independent variables are the interaction terms, i.e., *CDB×CPCTOP25 Connected*, *CDB×CPCTOP25,* and *CDB×Higher Hierarchy*. *CDB* takes the value of one if the loan is from the CDB, and zero otherwise. In column (1), *CPCTOP25 Connected* is a dummy that takes the value of one if either the city mayor or secretary has ever worked with a member in the Politburo over 24 months previously (we exclude the city secretaries who are in the Politburo). In column (2), *CPCTOP25* is a dummy that takes the value of one if the provincial secretary is a member of the Politburo and zeroes otherwise. In column (3), *Higher Hierarchy* is the dummy for those LGFVs at the province-level or not. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed*, LGFV characteristics (i.e., *Log(Assets)* and *Leverage*), firm×year fixed effects, and bank×year fixed effects in all columns. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default		
	(1)	(2)	(3)
	Political Rank=CPCTOP25 Connected	Political Rank=CPCTOP25	Political Rank=Higher Hierarchy
CDB×Political Rank	0.027***	0.018*	0.039***
	(3.80)	(1.75)	(3.39)
Political Rank	-0.012	-0.000	-0.017*
	(-0.74)	(-0.01)	(-1.70)
Bank Loan Rating	0.105***	0.076***	0.097***
	(7.58)	(7.96)	(8.37)
Log(Loan Size)	-0.002	-0.002	-0.002
	(-0.78)	(-1.01)	(-0.87)
Log(Maturity)	-0.028***	-0.044***	-0.023***
	(-3.59)	(-4.34)	(-3.64)
Guaranteed	0.006**	0.004	0.006*
	(2.03)	(1.51)	(1.85)
Controls	Yes	Yes	Yes
Firm×Year FE	Yes	Yes	Yes
Bank×Year FE	Yes	Yes	Yes
No. Obs.	24,435	30,689	31,012
Adj. R^2	0.516	0.556	0.511

Internet Appendix for

"Subnational Debt of China: The Politics-Finance Nexus"

This Online Appendix consists of three sections. In Section A, we provide more details on the institutional background of the political system and subnational debt in China. In Section B, three more figures are illustrated. Section C provides additional stylized facts for local government debt and regression estimations for robustness checks.

A: Institutional Background of Subnational Debt and Political System in China

A.1 Chinese local government debt, 1994-2014

Two major events shaping local government debt in China occurred in 1994. The first one concerns how local and central governments share tax revenues. The arguably most important reform for China's public finance is the 1994 Tax Sharing Scheme, under which a large share of Chinese fiscal revenues has been shifted from local governments to the central government. Consequently, local governments receive only about 30% of tax revenues. Thus, most tax revenues go to the central government. The second major change in 1994 occurred as a result of the Budget Law, which requires local governments to keep a balanced budget and prohibits direct borrowing by local governments. Local governments receive their share of tax revenues from the central government (they are also allocated fiscal transfer payments). If a local government needs to borrow money, it needs to ask the Ministry of Finance to borrow the money and repay the debt on its behalf. Such debt also needs to be approved by the Central Planning Commission (renamed as

Development and Reform Commission). Under these two changes in 1994, local governments have very limited fiscal and financing sources.

To solve the financing constraints, with the CDB's help, local governments started to set up corporations (some are in the form of shell companies) to raise debt for them after the 1994 reforms. These corporations are usually wholly owned by the local governments and are commonly known as local government financing vehicles. The first example is the local government in Wuhu City of Anhui Province, which established its Urban Construction Finance Company in 1998. It borrowed money from the China Development Bank, and the Wuhu Urban Construction Finance Company received land injections from the Wuhu government, which is the primary source of debt repayment. Moreover, the local government guaranteed the loan by using the fiscal revenues of the entire city, as approved by the local People's Council. Since then, many other cities have followed the Wuhu model and established their local government financing vehicles (LGFVs) to borrow from the CDB.

Although the debt of LGFVs is ultimately backed by local governments, it is not reported in the balance sheet of local governments. In other words, local governments borrow via LGFVs, and these loans are off-balance-sheet. Figure A1 illustrates such financing methods of local governments after the 1998 Wuhu model. Without funding from LGFVs, local governments can fund only their local expenditures by using allocations from upper-level governments or their assets, such as local state-owned enterprises. With LGFVs, local governments can finance new projects, especially large projects that require billions of RMBs to complete in multiple stages.

These loans are usually backed by land that can be sold at a higher price after the completion of the projects.

There have been growing concerns about the default risks of these off-balance-sheet borrowings. For example, the *Concerning Strengthening the Management of Local Government Financing Vehicle Companies* (No. 19, State Council 2010) was promulgated by the State Council on June 10, 2010 (please refer to http://www.gov.cn/zwgk/2010-06/13/content_1627195.htm for details). As a response, to monitor and manage the risks associated with banks' lending to LGFVs, the CBRC required banks to review and examine every loan to the LGFVs, including Notice on Conducting Research on Ledger of the Lending to LGFVs (Yin Jian Ban Fa No.338, 2010), issued on November 9, 2010, and Notice on Further Promoting the Inspection to Loans to LGFVs (Yin Jian Ban Fa No.309, 2010), issued on October 11, 2010.

In January 2015, the new Budget Law was entered into effect, which allows local governments to issue municipal bonds directly. Along with this new law, the debt swap program was also initiated. In particular, the central government asked local governments to swap their bank loans for longer-term, lower-interest bonds, in order to reduce the burden and leverage of servicing local government debt. Moreover, local government debt has also been more strictly administrated by the central government with a specific cap and debt quota.

A.2 The CDB *vs.* commercial banks

At the same time that tax reforms and Budget Law were enacted in 1994, the China Development Bank (CDB) was established for policy lending and helping centralize monetary authority and harden budget constraints. The CDB is directly under the jurisdiction of the State

Council, and it is ranked at the ministerial level. The CDB is the largest policy bank in the world, with total assets of USD2.38 trillion in 2017. The CDB is 100% state-owned and was initially viewed as an extension of the government's fiscal function. It has the mandate to provide subsidized credit for infrastructure and strategic industries in China.

Similar to the CDB, the five major commercial banks are also primarily state-owned and largely controlled by the central government. In particular, the CDB and the five major commercial banks have the same top-five shareholders that are all central government entities, i.e., the Ministry of Finance, the China Investment Corporation, the Wutongshu Investment Platform Corporation (wholly owned by the State Administration of Foreign Exchange), the China Securities Finance Corporation, and the National Social Security Fund. By the end of 2012, these five investors owned 100% of the CDB and 97.7% of the A-share for the Industrial and Commercial Bank of China (the largest commercial bank).

The state ownership of the twelve joint equity banks is relatively lower than that of the CDB and the five major commercial banks. For example, 71.0% of the A-share for China Everbright Bank (one of the twelve joint equity banks) is owned by the same five central government entities as the CDB and the five major commercial banks. Similar to the CDB and the five major commercial banks, the executives of the twelve joint equity banks are also considered to be bureaucrats. Overall, the eighteen banks in our sample (i.e., the CDB, five major commercial banks, and twelve joint equity banks) are highly subject to the state power.

A.3 Political system in China

Figure 2 in the paper illustrates the structure and hierarchy of the political system in China. The highest leading body of the Communist Party of China (CPC) is the National Congress (also known as the Party Congress). The National Congress elects the members of the Central Committee. These members carry out the resolutions of the National Congress and hold party or government positions such as the provincial party secretaries and governors, the ministers and ministerial-level commissioners of the State Council, and the heads of the military-region level organizations of the People's Liberation Army.

Plenary sessions of the Central Committee are convened by the Politburo of the CPC Central Committee at least once annually. The Politburo consists of approximately 25 members who have subnational and national ranks. Typically, seven members in the Politburo form the Politburo Standing Committee, which is at the top of the political hierarchy as national leaders. The Politburo and its standing committee represent the highest power in the CPC and the government, including President Xi Jinping and Premier Li Keqiang.

Critically, the Politburo members have substantial influences on the promotions of prefectural-level politicians (e.g., mayors and secretaries). In particular, when those city politicians (department-level rank) are promoted to the sub-ministerial level positions, they are under the direct management of the Organization Department of the Communist Party of China (CPC) Central Committee, and the Politburo members (subnational or national ranked) are the core of the CPC Central Committee. *The Party and Government Leading Cadres Selection and Appointment Rules in 2002* clearly state that, for the promotions of prefectural-level politicians, the candidates are first nominated by provincial leaders (e.g., provincial governors and secretaries) and then

approved by the Organization Department of the Central Committee of the CPC.[17] Moreover, once the department-level ranked politicians are promoted to sub-ministerial ranked positions, they are under the direct management of the Organization Department of the Central Committee. The Politburo members are the core of the Central Committee, as discussed above.

[17] See the detailed official document at http://www.people.com.cn/GB/shizheng/16/20020723/782504.html

B: Appendix Figures

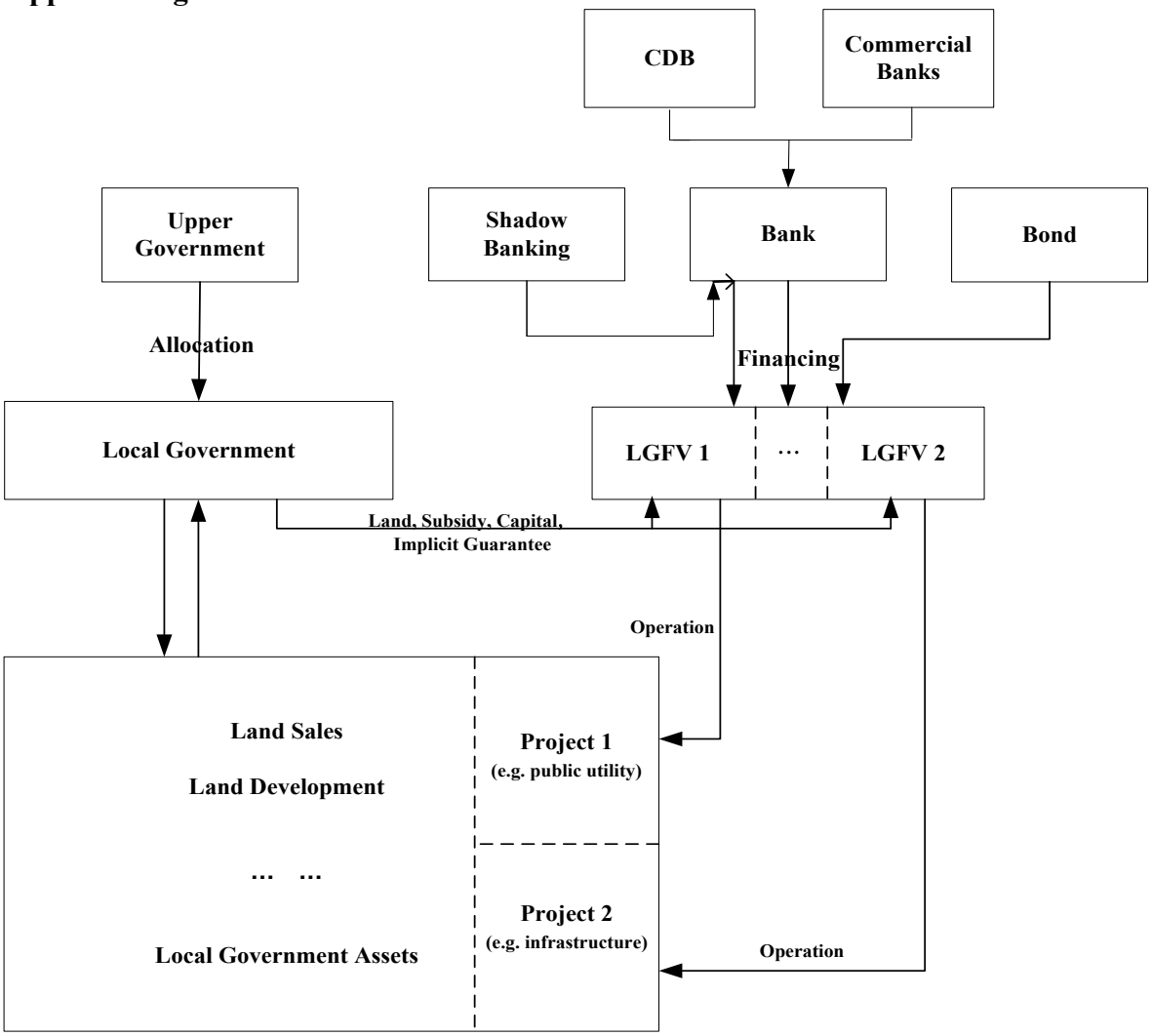

Figure A1: Local Government Financing and Operating Structure. This figure illustrates the typical flows of revenues and expenditures of local governments in China. Local governments receive funding from upper-level governments (e.g., the central government), including their share of tax revenues and transfer payments. They also generate other incomes from selling land and local assets, such as local state-owned enterprises. Local government financing vehicles (LGFVs) are entities fully owned and operated by local governments. LGFVs raise off-balance-sheet funds for specific projects, through bank loans from the China Development Bank and commercial banks, bond issuance, and the shadow banking system.

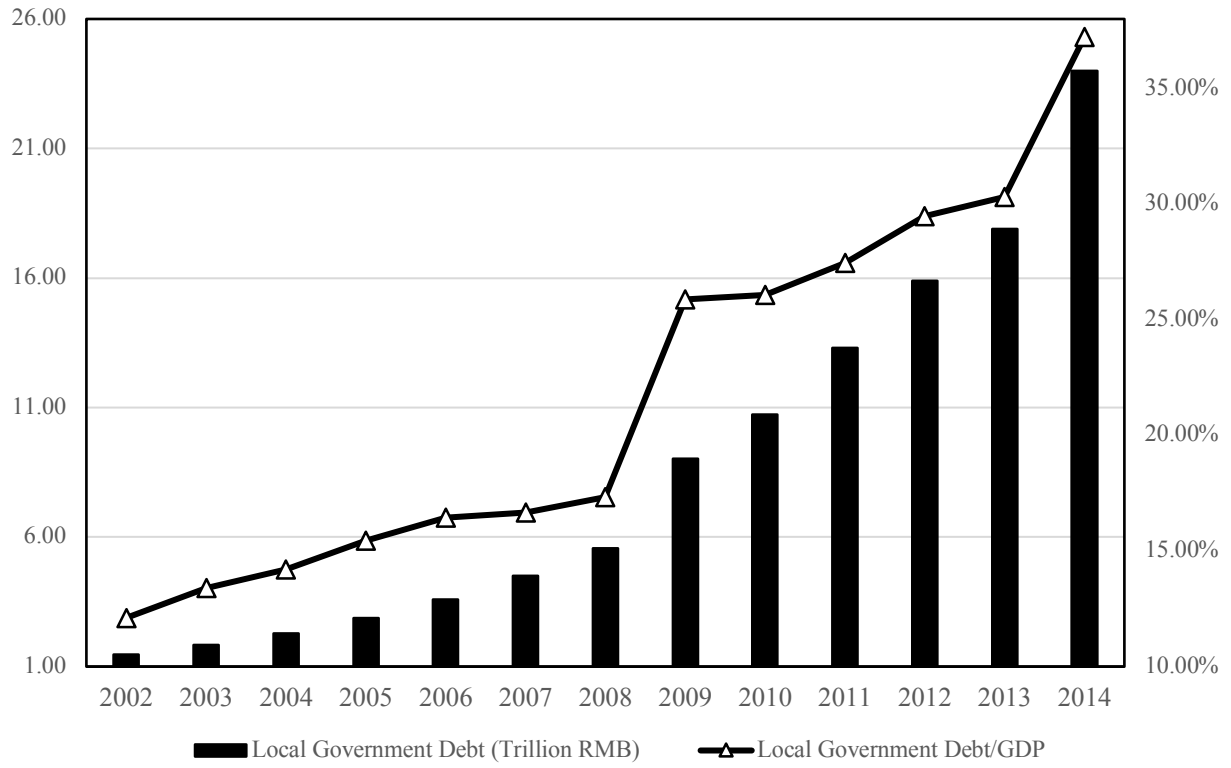

Figure A2: Time Trend of Local Government Debt in China. This figure shows the time trend of local government debt amount in China between 2002 and 2014. The solid line with triangles represents local government debt as the ratio of GDP, shown on the right vertical axis. The bar exhibits the total amount of local government debt (in units of RMB1 trillion), shown on the left vertical axis. The horizontal axis shows calendar years.

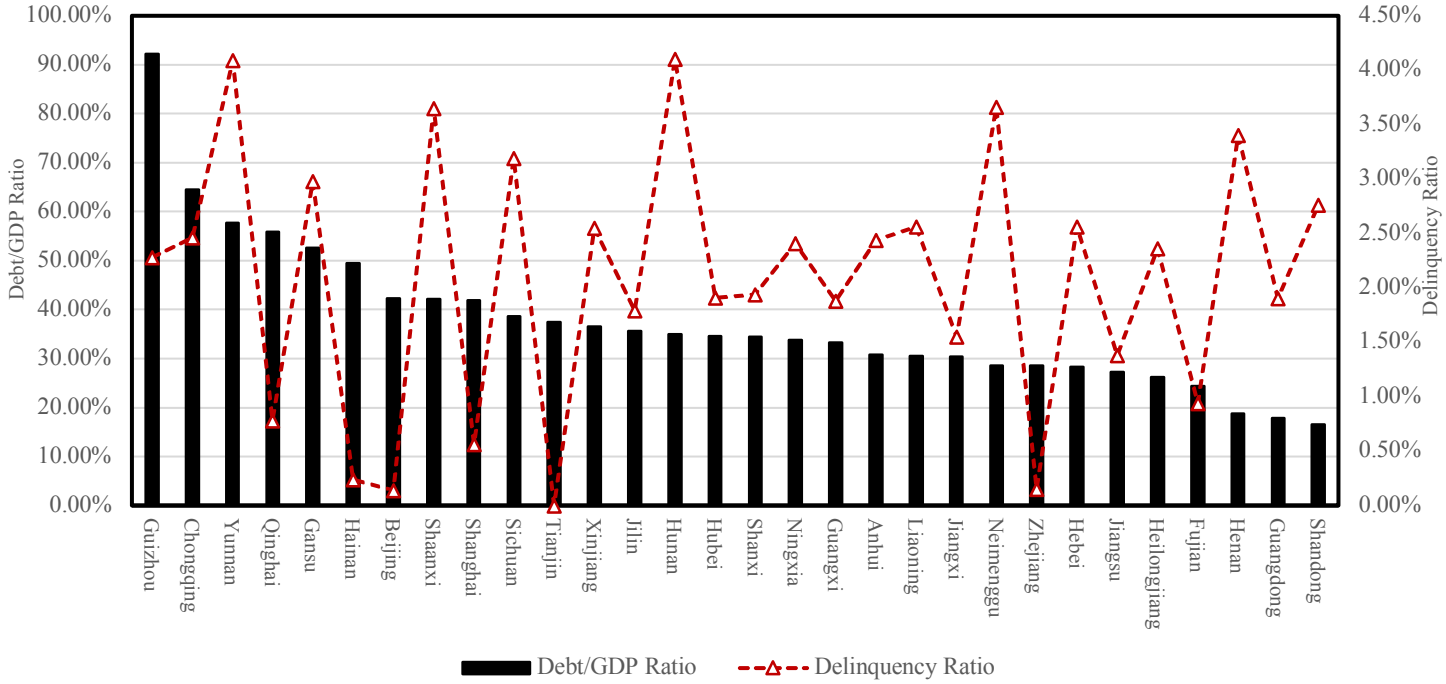

Figure A3: China Local Government Debt across Provinces. The bar illustrates the outstanding debt amount (released by National Audit Office in June 2013, http://www.audit.gov.cn/n1992130/n1992150/n1992500/3291665.html) to GDP (at the year of 2012) ratios for 30 provinces in China in June 2013 (left *y*-axis), and the dashed line with triangles illustrates the delinquency ratios for all provinces in China in June 2013 (right *y*-axis). The delinquency ratio is defined as the amount of debt overdue divided by the total amount of liable debt for each province. Both the debt amount and the delinquency ratio are collected from province-level auditing reports. The horizontal axis shows the 30 provinces in China.

C: Additional Results

Table A1: Local Government Borrowings in Bond Market

This table shows the summary statistics of China's LGFV bonds (i.e., *Chengtou* bond) from 2007 to 2012. Columns (1) and (2) report the number and amount of outstanding *Chengtou* bonds issued by the LGFVs that also have outstanding bank loans from 2007 to 2012, respectively. Columns (3) and (4) restrict to the bonds issued by the LGFVs with outstanding delinquent loans and report the number and amount of outstanding *Chengtou* bonds, respectively. Column (5) shows the number of *Chengtou* bonds that have ever been under default or delinquency.

	#Bonds	Total amount of outstanding bonds (RMB 100 million)	#Bonds issued by delinquent LGFVs	Total amount of outstanding bonds issued by delinquent LGFVs (RMB 100 million)	#Default Bonds
	(1)	(2)	(3)	(4)	(5)
2007	36	427	10	147	0
2008	67	844	16	261	0
2009	146	2059.5	9	132	0
2010	255	3625.5	10	142	0
2011	399	5437.5	18	221.5	0
2012	781	10090.7	22	264	0

Table A2: The Distribution of Local Government Borrowings across Commercial Banks

This table reports all 17 commercial banks covered by CBRC loan dataset. The five major commercial banks are Industrial and Commercial Bank of China (*ICBC*), China Construction Bank (*CCB*), Agricultural Bank of China (*ABC*), Bank of China (*BOC*), and Bank of Communications (*BoCom*). The other twelve banks are joint equity banks. #LGFVs is the total number of local government financing vehicles. #Loans is the total number of loan contracts.

	All Loans		Loans Expired before March 2013	
	#LGFVs	#Loans	#LGFVs	#Loans
Industrial and Commercial Bank of China	2,074	37,111	1,697	17,856
China Construction Bank (CCB)	2,645	20,727	1,994	12,496
Agricultural Bank of China (ABC)	1,812	28,899	1,279	11,639
Bank of China (BOC)	1,569	15,186	938	4,759
Bank of Communications (BoCom)	1,427	10,965	1,087	5,994
Shanghai Pudong Development Bank	1,300	7,634	1,119	4,949
China Citic Bank	1,190	9,398	1,074	6,806
Industrial Bank	956	3,933	711	2,867
China Minsheng Bank	895	5,689	784	4,131
China Everbright Bank	838	4,714	674	3,341
China Merchants Bank	728	4,610	624	3,348
Huaxia Bank	632	2,633	541	1,789
Ping'An Bank	505	2,581	418	1,792
China Guangfa Bank	375	2,047	263	1,177
China Zheshang Bank	255	932	204	513
Evergrowing Bank	225	670	191	502
China Bohai Bank	107	312	78	191

Table A3: Loan Default across Banks (Robustness)

This table reports two robustness regressions for Table 3. Column (1) shows the results of OLS regressions of default probability on the identity of the lending bank and other explanatory variables for the subsample of LGFV loans with due dates before October 2008. The dependent variable is a dummy variable for whether the loan is in default (i.e., over 90 days being delinquent) or not. Column (2) shows the results of OLS regressions of default probability on the identity of the lending bank and other explanatory variables, and the dependent variable is a dummy variable for whether the loan is in default (i.e., over 180 days being delinquent) or not. The main independent variable *CDB* in both columns is a dummy variable for whether the loan has been granted by the CDB or not. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed*, and firm×year fixed effects in all columns. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default	
	(1)	(2)
	[Before Oct 2008]	[180 days delinquent]
CDB	-0.049***	-0.013***
	(-5.01)	(-5.08)
Bank Loan Rating	0.059***	0.029***
	(4.64)	(5.95)
Log(Loan Size)	-0.002	-0.000
	(-0.88)	(-0.41)
Log(Maturity)	-0.045***	-0.007***
	(-5.18)	(-5.21)
Guaranteed	0.006**	-0.000
	(2.01)	(-0.19)
Firm×Year FE	Yes	Yes
No. Obs.	26,466	109,776
Adj. R^2	0.468	0.521

Table A4: LGFV Selective Default across Banks

This table shows the results of the OLS regressions of selective default. The dependent variable is the dummy for whether the loan is in default (i.e., over 90 days being delinquent) or not, and the main independent variable *CDB* is a dummy variable for whether the loan is from the CDB or not. Column (1) reports the regression results for LGFV selective default, and the sample is restricted to loans in the LGFV-year with at least one loan default case (i.e., the LGFV has at least one default case in any bank in that year). Columns (2) and (3) report the results of the OLS regressions of selective default for distressed local governments. We stratify cities into distressed and non-distressed ones according to city fiscal deficit ratio that is the share of local government fiscal deficit over local GDP. Columns (2) uses the median value of fiscal deficit ratios across cities as the cut-off to define distressed cities, and column (3) uses the 75th quartile of fiscal deficit ratios across cities as the cut-off. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed*, and firm×year fixed effects in all models. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default		
	Full Sample	Deficit above median	Deficit above 75th quartile
	(1)	(2)	(3)
CDB	-0.141***	-0.130***	-0.219***
	(-4.18)	(-3.69)	(-3.19)
Bank Loan Rating	0.254***	0.285***	0.292***
	(14.64)	(14.95)	(14.54)
Log(Loan Size)	-0.005	-0.013	0.021
	(-0.47)	(-0.69)	(1.28)
Log(Maturity)	-0.152***	-0.096*	-0.104
	(-5.41)	(-1.92)	(-1.61)
Guaranteed	0.014	0.011	-0.006
	(0.68)	(0.51)	(-0.12)
Firm×Year FE	Yes	Yes	Yes
No. Obs.	4,766	2,471	1,315
Adj. R^2	0.457	0.521	0.530

Table A5: Default and Promotion for Provincial Secretary

This table shows the impact of LGFV loan performance on provincial secretaries' promotions. We perform the cross-sectional OLS regression at the provincial secretary term level. The dependent variable is the dummy *Promotion* that is equal to 1 if the provincial secretary is promoted to a higher ranked position (e.g., subnational) after the term and 0 otherwise (e.g., the same rank as of ministerial level, demotion, retirement). For each term, *Log(Default_CDB)* and *Log(Default_CM)* are the logarithms of one plus the aggregate default amount of CDB loans and commercial bank loans at the provincial secretary term level, respectively. We also control *GDP Growth During Tenure*, *ΔUnemployment Rate Change During Tenure*, *Fiscal Deficit Ratio During Tenure*, *Population Growth During Tenure*, *GDP per Cap During Tenure*, and *Fiscal Revenue During Tenure* at the provincial secretary term level in all regressions. We further control for politician fixed effects in column (2). See Appendix Table for variable definitions. Robust standard errors are clustered by politician. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Promotion	
	(1)	(2)
Log(Default_CDB)	-0.031	-0.428
	(-1.06)	(-0.83)
Log(Default_CM)	0.030	0.227
	(1.55)	(0.96)
GDP Growth During Tenure	0.019	-0.004
	(1.56)	(-0.03)
ΔUnemployment Rate Change During Tenure	-1.100	59.371
	(-0.18)	(0.61)
Fiscal Deficit Ratio During Tenure	0.154	-2.871
	(0.57)	(-0.46)
Population Growth During Tenure	-0.336*	-0.834
	(-1.90)	(-0.46)
GDP per Cap During Tenure	-0.059*	0.330
	(-1.77)	(0.41)
Fiscal Revenue During Tenure	0.131	-0.264
	(0.88)	(-0.14)
Politician FE	No	Yes
No. Obs.	83	83
Adj. R^2	0.145	0.881

Table A6: Selective Default under the Lower Market Power of CDB

This table shows the results of the OLS regression of the government selective default in sub-samples. Columns (1) and (2) report the regression results for cities in which the CDB's market share in a given month is lower than its median value of that month across all cities. Columns (3) and (4) report the regression results for cities in which the dominant bank is not the CDB in terms of lending shares. The sample is restricted to loans in the city-year that has at least one default case in any bank in that year. The dependent variable is the dummy for whether the loan is in default (i.e., over 90 days being delinquent) or not, and the main independent variable *CDB* is a dummy variable for whether the loan is from the CDB or not. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, and *Guaranteed* in all columns. Columns (1) and (3) control for LGFV characteristics (i.e., *Log(Assets)* and *Leverage*) and firm and year fixed effects. Columns (2) and (4) control for firm×year fixed effects. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. Estimates of constants and coefficients of fixed effects are not reported for brevity. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default			
	CDB Share (Below Median)		CDB Dominant (No)	
	(1)	(2)	(3)	(4)
CDB	-0.031***	-0.034***	-0.044***	-0.037***
	(-5.46)	(-5.46)	(-5.49)	(-4.00)
Bank Loan Rating	0.032***	0.037***	0.058***	0.054***
	(2.62)	(2.95)	(4.52)	(4.01)
Log(Loan Size)	0.001	-0.000	0.001	-0.000
	(0.54)	(-0.01)	(0.80)	(-0.38)
Log(Maturity)	-0.034***	-0.020***	-0.027***	-0.012***
	(-5.60)	(-6.38)	(-3.48)	(-2.79)
Guaranteed	0.006	0.006	0.005	0.006
	(1.44)	(1.14)	(1.27)	(1.06)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Firm FE	Yes	No	Yes	No
Firm×Year FE	No	Yes	No	Yes
No. Obs.	14,442	14,433	13,598	13,504
Adj. R^2	0.464	0.446	0.524	0.562

Table A7: Selective Default and Bank State Ownership

This table shows the selective default regressions, controlling for banks' state ownership. The dependent variable is the dummy indicating whether the loan is in default (i.e., over 90 days being delinquent), and the main independent variable *CDB* is a dummy variable for whether the loan is from the CDB or not. We control for loan characteristics: *Bank Loan Rating*, *Log(Loan Size)*, *Log(Maturity)*, *Guaranteed*, and LGFV characteristics (i.e., *Log(Assets)* and *Leverage*) in all columns. *Bank State Ownership* is the ratio of shares held by the top five shareholders that are all central government entities, i.e., the Ministry of Finance, the China Investment Corporation, the Wutongshu Investment Platform Corporation (wholly owned by the State Administration of Foreign Exchange), the China Securities Finance Corporation, and the National Social Security Fund. Column (1) controls for firm and year fixed effects, and column (2) controls for firm×year fixed effects. See Appendix Table for variable definitions. Robust standard errors are clustered by bank. *T*-statistics of the coefficient estimates are reported in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Default	
	(1)	(2)
CDB	-0.038***	-0.039***
	(-4.21)	(-3.74)
Bank Loan Rating	0.082***	0.094***
	(7.49)	(8.48)
Log(Loan Size)	-0.002	-0.001
	(-0.85)	(-0.86)
Log(Maturity)	-0.035***	-0.022***
	(-4.34)	(-4.05)
Guaranteed	0.000	0.002
	(0.04)	(0.55)
Bank State Ownership	-0.006	-0.012
	(-0.73)	(-1.53)
Controls	Yes	Yes
Year FE	Yes	No
Firm FE	Yes	No
Firm×Year FE	No	Yes
No. Obs.	29,851	29,924
Adj. R^2	0.449	0.453