

Entrusted Loans: A Close Look at China's Shadow Banking System*

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Abstract

We perform transaction-level analyses of entrusted loans – the largest component of shadow banking in China. There are two types – affiliated and non-affiliated. The latter involve a much higher interest rate than the former and official bank loan rates, and largely flow into the real estate industry. Both involve firms with privileged access to cheap capital to channel funds to less privileged firms and increase when credit is tight. The pricing of entrusted loans, especially that of non-affiliated loans, incorporates fundamental and informational risks. Stock market reactions suggest that both affiliated and non-affiliated loans are fairly-compensated investments.

Keywords: shadow banking, entrusted loans, credit shortage, fundamental risk, informational risk

1. Introduction

Shadow banking – credit intermediation involving activities outside the traditional banking system – has grown exponentially in the last decade in China. The annual growth rate during 2010-2012 was 32% per year and the size of this sector reached 39% of GDP at the end of 2012 (Moody's report 2013). Proponents see shadow banking as an innovation that enriches the economy's financing channels and contributes to a more market-oriented financial system. Critics, however, are concerned that it may lead to higher debt levels and less transparent debt that may impose a key risk to the stability of China's financial system and economy. Regulators trying to weigh the benefits and risks have not come to a consensus on how and to what extent to regulate this booming financial sector (see Wei and Davis, 2014).

The debate, however, lacks micro foundation because there is little systematic evidence on either side of the argument. On the risk side, how much risk shadow banking adds to the economy or the financial system ultimately depends on what real investment projects it funds and how risky these projects are, of which we have little understanding. We also have no systematic study of the pricing of such credit, i.e., at what price these activities are undertaken and whether the relative pricing is efficient. Hence any discussion on how useful they are in freeing up China's financial system is based on perception rather than on solid evidence.

This paper examines these issues. Our study is the first large-sample transaction-level analysis of China's shadow banking system. Existing studies about alternative financing either use aggregate summary statistics at the economy or industry level, or survey data voluntarily provided by firms (e.g., Allen, Qian and Qian, 2005; Fisman and Love, 2003; Cull, Xu and Zhun, 2009; Ayyagari, Demirgüç-Kunt and Maksimovic; 2010). Our manually-collected transaction-level data allows us to study several

issues that other papers have been unable to address. In particular, we are able to observe the types of investments these loans fund and to study their pricing efficiency.

We take advantage of the mandatory disclosure requirement on listed firms when they are involved in a form of shadow banking, i.e., entrusted loans. Entrusted loans are loans made by a non-bank party (e.g., an industrial firm) to another, using a bank as a servicing agent. The bank earns a fee for its service, but does not bear the risk of the investment. As Figure 1 shows, they constitute the largest component of shadow banking (32% in terms of RMB amount). We manually collect loan-level data from listed companies' disclosure.

We examine the following research questions: (1) What kinds of firms tend to make entrusted loans? What motivates them to allocate funds in areas other than their main businesses? (2) Who are the borrowers? Are these entrusted loans likely to allocate capital in certain types of industries, or certain geographical areas? (3) At what prices are these loans provided? How does it compare to the official bank loan rate? The difference will shed light on the degree to which the official financing system is distorted. (4) Are these loans economic- and information-based? In other words, are they priced commensurate with their risk levels? Further, can the price of a loan (i.e., the interest rate) predict the future loan performance (i.e., the likelihood of default)? (5) Do these loans create or destroy value for the shareholders of the lending firms?

Our investigation reveals that entrusted loans allow the privileged firms with access to cheap capital (such as large, state-owned enterprises) to provide credit to those less privileged firms (such as small and medium-sized private firms). They are more likely to happen when credit is tight. It is uncommon in other parts of the world that non-financial firms engage in making loans since they typically lack a comparative advantage in doing so. China's highly regulated banking system provides an incentive for privileged firms to act as credit intermediaries. Geographically, although many of the loans are provided

to firms within the same area, they do tend to flow from prosperous provinces/areas to poorer ones, and from coastal areas to inland areas.

Our investigation also reveals that different types of shadow banking activities can be very different in terms of the types of investments they fund and their pricing. In the category of entrusted loans, there are two distinctive types – affiliated and non-affiliated loans. Most affiliated loans are made by a parent firm to a subsidiary, and some are between a customer and a supplier or between partners of joint ventures. Non-affiliated loans are between two parties without any type of the relationship above.

The two types of loans have striking differences. First, they differ in the industry distribution of their borrowers. Most of the affiliated loans are within-industry loans. In contrast, close to half of the non-affiliated loan amount flows into the real estate and construction industry, which the regulators try to restrict credit reaching.

Second, the interest rates of non-affiliated loans reflect the market rate while those of affiliated loans do not. Affiliated loans are essentially pass-through loans. That is, the borrowing firms borrow at the same rate as the lending firms, which is about the official bank loan rate. Unlike affiliated lenders, which tend to have high profit abilities, lenders of non-affiliated loans have low growth rates and use entrusted loans as an alternative investment channel to their main businesses, and pursue immediate profits from acting as credit intermediaries. The loan rates are about twice the official bank loan rate, and twice the borrowing cost of the lenders. The average loan rate is 13.9% whereas the average bank loan rate is 6%. The significant difference of these rates suggests that the official financial system is quite distorted.

Consistent with non-affiliated loans being market-oriented transactions, we find strong evidence that the pricing of non-affiliated loans depends on both fundamental and informational risks. The adjusted interest rate increases if the borrower is in a high-risk industry, and decreases if it is a SOE, or when the lender is in the same industry or located in the same city as the borrower (hence the information

asymmetry between the two parties are lower). Moreover, the likelihoods of default and other payback difficulty increase with their interest rates, confirming that the pricing of these loans are risk-based. In comparison, there is weaker evidence that affiliated loans incorporate risk.

Finally, we examine whether entrusted loans create or destroy value to lending shareholders by examining the stock price reaction upon the announcements of these loans. Our evidence suggests that non-affiliated loans are fairly-compensated investments, although investors react negatively the first time a firm announces such a loan and reveals to the market that it lacks good investment opportunities in its main business. Announcement returns for affiliated loans are not significantly different from zero, suggesting that they do not destroy value. In other words, although the interest rates are low, the market views these loans as fairly priced investments in the affiliated parties.

Our paper makes a unique contribution by providing evidence on the asset side of shadow banking. It sheds light on what kind of real investments it funds, and how efficient is the pricing of the loans. Our evidence also suggests that different shadow banking can be very different in these key aspects, and therefore we need to be careful in drawing conclusions about shadow banking.

Recently, other studies on China's shadow banking have appeared. Wang, Wang, Wang and Zhou (2016) argue theoretically that shadow banking constitutes a dual-track approach to liberalize China's interest rate policy, which leads to efficiency gains. Chen, Ren and Zha (2016) and Acharya, Qian and Yang (2016) study the role of banks in either brokering shadow credit or raising off-balance-sheet funds. Both papers find that banks increase shadow banking activities when monetary policy tightens or when the bank faces binding capital or loan-to-deposit requirements. Hachem and Song (2016) models that shadow banking is an unintended consequence of China's liquidity regulation of banks. He, Lu and Ongena (2016) also look at the announcement returns of entrusted loans, but they do not differentiate a firm's first and subsequent loans.

Our examination of affiliated loans is related to a number of existing studies of intra-business-group loans. Gopalan, Nanda, and Seru (2007) and Buchuk, Larrain, Munoz, and Urzua (2014) investigate intra-group loans in India and Chile, respectively, and document benefits of these loans such as reducing the likelihood of bankruptcy, alleviating financial constraints and increasing investments in the borrowing firms.¹ Complementary to both studies, we provide evidence that pricing of affiliated loans is economic based and on average are fair investments. Jiang, Lee and Yue (2010) document that controlling shareholders of Chinese listed firms use intra-group loans for tunneling during 1996-2006, and that the practice was ended by 2006 after a series of regulatory rules and directives.² Using post-2004 Chinese data, Chen, Jiang, Ljungqvist, Lu, and Zhou (2015) present evidence that state-owned intra-group capital flows likely go to firms with low investment opportunities, whereas private groups do the opposite. Such support activities may not be necessarily inefficient after considering factors such as bankruptcy costs (Gopalan, Nanda, and Seru, 2007). Our wealth effect tests suggest that the market does not believe affiliated loans destroy value for lenders.^{3,4} To the best of our knowledge, our paper is the first to systematically study the pricing and wealth effects of affiliated loans. Our paper is also the first to study non-affiliated loans.

The rest of the paper is organized as follows. Section 2 describes the sample and the data. Section 3 asks what kind of firms make entrusted loans and when. Section 4 investigates who are borrowing and

¹ For discussion of the general literature on business groups and internal capital markets, see Buchuk, Larrain, Munoz, and Urzua (2014).

² La Porta, Lopez-de-Silanes and Zamapripa (2003) also document that related lending by banks of Mexico in 1990s is a form of looting.

³ Consistent with Chen, Jiang, Ljungqvist, Lu, and Zhou (2015), we find that the announcement returns of affiliated loans tend to be higher for loans made by non-SOE lenders than those by SOE lenders. Nonetheless, the differences are not statistically significant.

⁴ Our sample is different from that of Chen, Jiang, Ljungqvist, Lu, and Zhou (2015). While they examine capital flows among firms with the same ultimate controlling shareholder, our affiliated loans are mostly between listed parent firms and subsidiaries; so the motives for supporting can be very different. Their data do not reveal the repayment of the loans and trade credit; ours clearly show that the majority of the loans (91.4%) are fully repaid in time.

at what price. Section 5 examines the determinants of the loan rates. Section 6 examines the wealth effects of these loans. Section 7 concludes.

2. Sample and Data

By the regulations of China Securities Regulatory Commission (CSRC), listed companies are required to make disclosure in annual reports about entrusted loans they make. We manually collect our sample and data by searching for the keyword “entrusted loan” in all public non-financial firms’ annual reports during 2004-2013.⁵ We identify newly originated loans for each firm-year based on the origination date of the loans. We also identify the lender and the borrower, and record loan characteristics such as the loan amount, the interest rate, the maturity, and whether the two parties are affiliated.

We supplement the data with entrusted loan announcements. Not all firms make interim announcements about their entrusted loans. The regulatory requirement on such announcements is vague. That is, firms need to make announcements about “material” investments and events, but there is no technical definition for what is considered material. When announcements are available, we use them to cross-check data from annual reports and to fill in the missing information. Knowing the announcement dates also allows us to examine stock price reactions to these loans.

We obtain additional information about the lenders from Wind Database, which provides accounting and return data for listed firms. In our sample, the majority of borrowers (99%) are private firms, so we have limited information about them. We collect data on a borrower’s industry, headquarters location and whether it is an SOE based on information provided by the lender or by our own manual search.

⁵ In earlier years of the sample period, information about entrusted loans can often be found in footnotes to the balance sheet, but sometimes can also be found in other sections such as “major events”. Since 2011, CRSC specifies that the information should be disclosed in the section of “the report of the board – about investments”.

Our sample includes 2,995 entrusted loans made by 498 unique firms that correspond to 1,107 firm-years during 2004-2013. In this period, the entire public market of China has 2,467 unique non-financial firms that correspond to 18,003 firm-years.

Table 1 reports by year the number of listed firms that make new entrusted loans, the number of loans, and the total loan amount. We observe a fast growing trend of entrusted loans. The number of firms making entrusted loans increases from 55 in 2004 to 220 in 2013. The total amount of loans takes an over-ten-fold leap from 12.6 billion RMB in 2004 to 219.2 billion RMB in 2013.

3. Who Makes Entrusted Loans and When?

We investigate what types of firms make entrusted loans. What motivates them to lend instead of investing in their main businesses? What differentiates firms that make loans from those that do not? In addition, we also compare lenders of affiliated loans with those of non-affiliated loans.

Table 2 reports the descriptive statistics of lender characteristics. The first two columns show the mean values of variables for firm-years with and without entrusted loans. Firms with loans are much larger than those without in terms of the asset value at the beginning of the year (18.1 billion vs. 5.8 billion), and are more likely to be SOEs (73.8% versus 54.6%). Firms with loans also have higher profitability measured by return on assets (ROA) (7.6% versus 6.9%), and a larger amount of recently issued debt as a percentage of average assets (7.8% versus 4%). These differences are all statistically significant at the 1% level. These characteristics of lending companies suggest that larger, SOE firms with higher profitability and more external financing are more likely to provide entrusted loans.

Borrower size is not disclosed in lenders' annual reports. In unreported results, we are able to find asset values of borrowers in 509 loan announcements. For those 509 transactions, the median borrower asset value is RMB 0.4 billion (vs. 4 billion for lenders). According to the size classification criteria by

China Bureau of Statistics, the asset value is associated with a medium-size company. And as noted before, 99% of the borrowers in our data are private firms. So a typical borrower is a private medium-size company.

We then examine lenders of non-affiliated and affiliated loans separately in Columns (3) and (4) of Table 2. The number of firm-year observations with affiliated loans is more than twice those with non-affiliated loans; therefore it is not surprising that the differences between lenders and non-lenders are driven by those making affiliated loans. More importantly, the two types of lenders have significant differences. Compared to firms making non-affiliated loans, firms making affiliated loans have more assets (a mean of 21.0 billion RMB vs. 10.6 billion RMB), higher sales growth (26.5% vs. 18%), higher debt ratios, more recently issued debt (8.7% vs. 5% of total assets), are more likely to be SOEs (80% vs. 57%) and have a higher percentage in the real estate business (12% vs. 7%).

Similarly to lenders of affiliated loans, although to a lesser degree, firms making non-affiliated loans tend to be larger (i.e. more assets) than non-lenders. Unlike lenders of affiliated loans, firms making non-affiliated loans do not differ significantly from non-lenders in ROA, new debt, and the likelihood of being an SOE or a real-estate company. In contrast to lenders of affiliated loans, they actually have a lower growth rate and less debt than non-lenders.

We then run multivariate regressions to explore the determinants of the loan decisions. In addition to the firm characteristic variable listed in Table 2, we also include a measure for the condition of the economy, namely the Shanghai interbank offered rate (Shibor), which measures the overall availability of liquidity and credit in the economy. We obtain daily data on Shibor from the China Center for Economic Research (CCER) Database, and use the yearly average in the regression. The yearly averages for our sample periods (from 2004 through 2013) range from 1.1% in 2009 and 3.4% in 2013.

Table 3 reports the results of two types of regressions. In the first three columns, we report logit regressions using *Loan dummy* (an indicator that there is an entrusted loan for the firm-year) as the dependent variable. For each regression, we include both firm-years with and without loans. The loan sample includes firm-years with both types of loans, non-affiliated loans only and affiliated loans only, respectively, in Columns (1)-(3).

Consistent with the univariate results, two factors have significant impact on both types of loans. The coefficients on $\ln(\text{assets})$ and *Shibor* are significant and positive in both Columns (2) and (3), suggesting that larger firms are more likely to make both affiliated and non-affiliated loans, and that there are more of these loans when credit is tight in the economy. For the economic significance of the effects, given all other explanatory variables are at their means, when *Shibor* increases from its 25th percentile to 75th percentile, the probability of making a non-affiliated loan increases from 1.2% to 1.9%, and the probability of making an affiliated loan increases from 2.6% to 3.9%.

Other than the two common determinants, the decision to make affiliated or non-affiliated loans is influenced by several different factors. The likelihood of affiliated loans increases if the firm has higher profitability (measured by ROA), if the firm has raised more debt recently, if the firm is an SOE, and if it is in the real-estate industry. The likelihood of non-affiliated loans, on the other hand, decreases with the firm's sales growth rate and its debt ratio.

In addition to the logit regressions, we also estimate Tobit regressions using the ratio of the amount of loan to total assets as the dependent variable, using zero as the lower limit. The last three columns of Table 3 present results of Tobit regressions. The results are consistent with those of the logit regressions.

Our sample period includes the recent global financial crisis. In 2009, China went through its own version of "Quantitative Easing" and injected four trillion RMB into its banking system. To make sure

our results are not driven by such an unusual period, we estimate the logit and Tobit regressions excluding year 2009 and our results are robust (untabulated).

In summary, both types of loans increase with the lender's size and when credit is tight in the economy. Thus, entrusted loans are market reactions to credit shortage, and allow privileged firms (large listed firms) with cheap access to capital to channel funds to less privileged firms (small and medium-sized private firms). However, there are important differences between the two types of lenders. Lenders of affiliated loans tend to be SOEs, have high profitability, and have raised new debt recently. These characteristics suggest that they are in good positions to support their affiliated parties. In addition to good profits, they do not mind raising new capital to finance the loans. On the other hand, lenders of non-affiliated loans tend to have lower growth rates and therefore use the loans as a new channel to generate profits and growth.

4. Which Firms Are Borrowing, and at What Price?

We now examine the entrusted loans at the transaction level, as opposed to the firm-year level. Out of the 2,995 loans in our sample, we can identify the borrower and loan characteristics in 2,960 cases.

4.1 Interest rate: Affiliated loans versus non-affiliated loans

The most striking difference between affiliated and non-affiliated loans is in the interest rate: affiliated loans command about half the rate of that for non-affiliated loans. Table 4 reports the average interest rate for the two types of loans respectively, and by industry. The average interest rate is 6.4% for affiliated loans vs. 13.9% for non-affiliated loans. We calculate the *adjusted interest rate* as the difference between the loan rate and the official bank loan rate specified by the central bank categorized

by maturity. The official rate ranges from 4.9% to 7.8% in our sample period and has a mean of 6.1%. The average adjusted rates for affiliated and non-affiliated loans are 0.3% and 7.9%, respectively.

The near zero adjusted interest rate suggests that affiliated loans charge about the same rate as official bank loans. In China, other than a small group of privileged firms (i.e., the large SOE firms), the cost of borrowing for most firms is much higher than the official bank loan rate (Song, Storesletten, and Zilibotti 2011). Hence the low interest rate indicates that affiliated loans are used to support a subsidiary or to build a long term relationship with a supplier or a customer. For example, in 2006, SAIC Motor, the largest listed auto company in the China A-share stock market, provided a five-year low interest loan of 94 million RMB to Ningbo Huaxiang Electronic, a major supplier for automotive components. SAIC Motor stated in its annual report that the purpose of the loan was to ensure the supplier will provide quality components on schedule. Nonetheless, whether these loans with below-market rates are inefficient subsidies or long-term investments is an open question. The lenders might gain long-term benefit such as returns from equity investment of the subsidiaries, stable and quality supplies from suppliers, or stable demand from customers.

The rates of non-affiliated loans, on the other hand, reflect the market cost of borrowing for small and medium-sized private firms, which doubles the official bank loan rate. This reflects how distortionary the official banking system is. It is the regulatory restrictions on bank loan access that give non-financial firms incentives to act as credit intermediaries, which they have no comparative advantages to do in a market-oriented financial system.

It is also clear from Table 4 that the high interest rates of non-affiliated loans are broad based, rather than concentrated in a few industries. The average rates for various industries range from 6.9% to 16.1%, and are higher than 10% for 19 out of 23 industries.

We also try to gauge the lenders' cost of borrowing for comparison. For lack of better data such as the cost of borrowing for newly issued debt, we use a firm's annual interest payment divided by total debt as a proxy for its current cost of borrowing.⁶ We find that the average cost of borrowing for lenders is 6.5% (untabulated).⁷ After adjusting the official bank loan rate, it is 0.4% (the median is -0.2%), suggesting the lenders are able to obtain capital at rates that are similar to the official bank loan rate. Further, SOEs' average cost of borrowing is lower than that of non-SOEs by 33 basis points (the difference in median is 85 basis points). These numbers confirm that lenders of entrusted loans have privileged access to low-cost capital, and use such capital to either support affiliated parties or make a profit.

In summary, affiliated loans are essentially pass-through loans. That is, the borrowers pay the same rate as the lenders' cost of borrowing, which is about the official bank loan rate. On the other hand, the non-affiliated lenders act as credit intermediaries and charge a market rate, which is much higher than the official bank loan rate. The substantial differences in these rates indicate that the official banking system is quite distorted. The artificially low bank loan rates, and the restricted access to the banking system for the more productive private sector, have led to the exponential growth of shadow banking.

4.2 Industry distribution of lenders and borrowers

The second striking difference between affiliated and non-affiliated loans is the industry distribution of the borrowers. There are a lot of questions on whether shadow banking helps get around the regulatory restrictions on the red-hot real estate and construction industry and mainly provide capital to that section. Our study shows that the two types of loans are very different in this regard.

⁶ Specifically, the denominator is the average of the beginning-of-year and end-of-year values of total debt.

⁷ There is no clear difference in the cost of capital for lenders of affiliated loans vs. non-affiliated loans: the mean is higher for lenders of affiliated loans, but the difference in medians is not statistically significant.

Most of the affiliated loans (80.6%) are within-industry loans. Table 5 Panel A presents the RMB amount of entrusted loans by lender and borrower industries. The real estate and construction industry receives 12.2% (77.8 out of 638.5 billion) of the total affiliated loan amounts, which is not disproportionately large given the industry's importance in China's economy. Based on a recent IMF report on China (IMF 2014), "it [the industry] directly accounted for 15 percent of 2012 GDP, a quarter of fixed-asset investment, 14 percent of total urban employment, and around 20 percent of bank loans" (page 22). Benchmarked against these numbers, the amount of entrusted loans going to the real-estate and construction industry is not high (the ratio of the industry's borrowing to total loan amount is 12.2%). In particular, the percentage of entrusted loans to the industry is lower than that of bank loans. Moreover, the rest of the loans have a reasonably diverse distribution among over twenty broadly-defined industries.

For non-affiliated loans, however, a much larger portion of money flows into the real estate and construction industry. The industry's borrowing accounts for 46.1% of the total amount of the non-affiliated loans. Since 2011, China Banking Regulatory Commission (CBRC) has tried to restrict bank loans to the real estate and construction industry since it is perceived as overheated. Bank lending to the industry largely shrank by 38% from RMB 2.02 trillion in 2010 to 1.26 trillion in 2011 and 1.35 trillion in 2012.⁸ The total borrowing of non-affiliated loans of the industry in our sample, however, jumped to 16.2 billion during 2011-2013, compared to a total of 5.7 billion during 2004-2010. This suggests that non-affiliated loans do help to get around the regulatory restrictions and channel more capital into the real estate and construction industry.

Our study focuses on entrusted loans made by listed firms. It is worth noting that in recent years (starting from 2009, the year of the large stimulus package), another type of lender—private equity funds—has gained an increasing market share of entrusted loans. Although we do not have direct data

⁸ Data source: the web site of People's Bank of China.

on this group of loans, our understanding is that these loans are driven by the pursuit of immediate profits, based on interviews with practitioners. Therefore they have characteristics associated with non-affiliated loans—most noticeably, they command high interest rates and are more likely to flow into restricted industries such as the real estate and construction industry. In January 2015, the China Banking Regulatory Commission (CBRC) instituted new rules on entrusted loans. One important change is that debt-financed funds are prohibited from making entrusted loans, which aims to exclude these private equity players from this market.

4.3 Geographical distribution of lenders and borrowers

Table 5 Panel B presents the geographical distribution of lenders and borrowers. Specifically, it shows the RMB amounts of lending and borrowing from each province or area, for affiliated and non-affiliated loans respectively.⁹ Figure 2 offers a visual presentation of the geographical distribution on the China map.

Affiliated loans are largely concentrated in the two biggest cities directly controlled by the central government—Beijing and Shanghai. Lenders from Beijing make up about 54.7% of the total affiliated loans and those from Shanghai make up 12.4%. They are followed by Shandong, Zhejiang and Guangdong provinces. One important reason for the concentration is that 83.3% of affiliated loans are made by SOEs and in general many SOEs, especially large SOEs, are headquartered in Beijing or Shanghai.¹⁰ Another driver for the loans' geographical distribution is the economic prosperity of different provinces and areas. According to the WIND database, the five provinces/areas that lend most

⁹ In addition to 23 provinces, China has 4 municipalities (Beijing, Shanghai, Tianjin and Chongqing), 5 autonomous regions (Guangxi, Inner Mongolia, Tibet, Ningxia and Xinjiang) and 2 special administrative regions (Hong Kong and Macau).

¹⁰ By 2013 year end, 4.4% and 4.3% of all listed SOE firms are headquartered in Beijing and Shanghai, respectively (top 2 among all provinces and areas), and these firms control 24.5% and 7.2% of all SOE listed firms' market value of assets (again top 2 among all provinces and areas)

are ranked as 1st (Shanghai), 2nd (Beijing), 3rd (Zhejiang), 6th (Guangdong) and 9th (Shandong) in terms of disposable income per capita in 2013.¹¹ And except for Beijing, they are all located in coastal areas.

The five largest borrowing provinces/areas are: Beijing, Shanghai, Jiangsu, Inner Mongolia and Guangdong. It is not surprising that three of them are also among the ones that lend the most, since 51.6% of affiliated loans are between parties from the same province/area and 35.7% of affiliated loans are within the same city.

Inner Mongolia stands out as the area with the highest net borrowing amount (borrowing minus lending amount): it lends zero and borrows 34.4 billions. The next four provinces following Inner Mongolia in terms of net borrowing are Jiangsu, Shaanxi, Sichuan and Liaoning. These provinces' disposable income per capita in 2013 are ranked as: Inner Mongolia (10th out of 31), Jiangsu (5th), Shaanxi (22nd), Sichuan (23rd) and Liaoning (8th). Inner Mongolia, Shaanxi and Sichuan are located inland. It seems that entrusted loans do spillover from prosperous provinces/areas to poorer ones, and from coastal areas to inland areas (also see Figure 2).

Non-affiliated loan activities are most active in Zhejiang province, which is also the province with the highest disposal income per capita after Shanghai and Beijing. Private enterprises are very active in Zhejiang. It has the second highest number and market value of assets of non-SOE listed firms, second only to Guangdong. The lending amount from Zhejiang alone is 41.4% of total non-affiliated loans, and its borrowing amount is 30.6% of total loans.

Non-affiliated loans are even more likely than affiliated loans to occur between parties from the same province/area (73.9%) or even from the same city (51.3%). Following Zhejiang, the other provinces/areas active in non-affiliated loan activities are (in order of lending plus borrowing): Jiangsu, Shanghai, Beijing, and Guangdong. These are all prosperous provinces/areas.

¹¹ Ranks exclude data from Hong Kong, Macau and Taiwan.

In terms of net lending (i.e., lending minus borrowing amount), Zhejiang (10.8% of total amount) and Guangdong (3.0%) lend out the most. The net borrowing amounts of Shanghai (5.1%), Guangxi (3.3%), Guizhou (1.3%) and Jiangsu (1.0%) exceed 1% of total amount of non-affiliated loans. Guangxi and Guizhou are poor provinces—their disposable income per capita in 2013 are ranked 25th and 29th out of 32 areas. So non-affiliated loans mostly happen in prosperous areas with already active commerce and economic activities, but again there is some evidence that capital flows from prosperous provinces/areas to poorer ones, and from coastal to inland areas.

4.4 Other loan characteristics

Table 6 presents summary statistics for other loan characteristics than the interest rate, as well as borrower and lender characteristics. Compared to non-affiliated loans, affiliated loans tend to be larger (with a mean of 269 million RMB vs. 81 million RMB), have longer maturity (18 months vs. 12 months), and are less likely to need collateral and guarantee (11% vs. 74%). In addition, only affiliated loans may be used to retire earlier debt (3% vs. 0%). Affiliated loans are also more likely to be used for specified projects (6% vs. 3%). These findings are consistent with prior studies that borrowers with relationship with lenders receive favorable terms such as greater credit availability and lower collateral requirements (Petersen and Rajan, 1994, Berger and Udell, 1995).

The percentage of SOE borrowers for non-affiliated loans is much lower than that for affiliated loans (20% vs. 78%). This suggests that it is the least privileged firms—the small non-SOE firms—that are taking entrusted loans from non-affiliated parties at market interest rates that are much higher than the official bank loan rates.

Moreover, the proportion of same-industry loans for non-affiliated parties is low (10% vs. 81% for affiliated loans). And non-affiliated loans are more likely to be made to same-city borrowers (51% vs. 36% for affiliated loans).

5. The Pricing of the Loans

5.1 Do loan rates depend on risk?

In this section, we investigate what determines the pricing of the entrusted loans, i.e., the interest rate. Allen, Qian, and Xie (2013) argue that constructive (information-based) informal financing plays an important role in China's financial market. We are interested to see for the entrusted loans in our sample, whether the pricing depends on the borrower's fundamental and informational risks.

Since most (99%) of the borrowers are private firms, we have limited information about them. We obtain the borrower's name from the lenders' disclosure, and collect information about its industry, location and whether it is an SOE from the lenders' disclosure, or by manual search.

To measure a borrower's business risk, we consider its industry risk and whether the firm is an SOE. We use three variables to measure industry risk: (1) *borrower industry median return volatility*, computed as the median of the standard deviations of daily returns for firms in the borrower industry during the year before the loan is made; (2) *borrower industry sales growth dispersion*, computed as the standard deviation of sales growth of firms in the borrower industry during the year before the loan is made; (3) *real estate borrower*, a dummy variable equal to one if the firm is in the real estate and construction industry. Firms in the real estate and construction industry are often considered to be of high risk, as many worry about the bubble in the housing market (e.g., Wu, Gyourko, and Deng, 2012). In addition, despite the general increase in housing prices during our sample period, firm performance in the industry varies widely. For example, its average (across years) industry sales growth dispersion is

106% and is the highest among all the industries, and its average (across years) industry median return volatility is 3.09% and ranks as No.6 among all the industries. The correlation of *real estate borrower* and *borrower industry sales growth dispersion* is 0.70, and the correlation of *real estate borrower* and *borrower industry median return volatility* is 0.17. At firm-level, a firm tends to have lower debt risk if it is a SOE since SOEs typically have better access to official financing and therefore have higher abilities to meet their debt obligations.

We use two variables to measure the extent of information asymmetry between the borrower and the lender: a dummy variable indicating whether they are in the same city, and a dummy indicating whether they are from the same industry. Prior researches on bank loans document that banks located closer to borrowing firms incur lower information production and monitoring costs (e.g. Degryse and Ongena, 2005; Mian, 2006). It is also reasonable to think that lenders understand borrowers from the same industry better.

Table 7 presents univariate analysis of the impact of these risk measures on interest rates. Specifically, we compare the mean adjusted interest rates between subsamples of loans differing in these risk measures. For dummy variables, we compare subsamples with and without the respective characteristic. For continuous variables, we compare subsamples with above-median vs. below-median values of the respective risk measure.

Consistent with the informational risk hypothesis, the results show that for non-affiliated loans, borrowers located in the same city as lenders pay lower interest rates (the mean adjusted interest rate is 7.2% vs. 8.6%, and the difference is statistically significant at the 1% level). For affiliated loans, the rate is also lower for same-city loans but the difference is much smaller (0.2% vs. 0.4%, and the difference is significant at the 10% level). In addition, we recall that the percentage of same-city loans is higher for non-affiliated loans. This is consistent with the notion that firms are more willing to lend to a non-

affiliated firm if it is in the same city and hence presents lower informational risk. In comparison, geographic distance is not as important a factor for affiliated loans. It is plausible that lenders have good information about affiliated parties regardless of whether they are from the same city. The evidence may also suggest that affiliated lenders are less sensitive to risk.

Also consistent with the informational risk hypothesis, the interest rate is lower if both parties are from the same industry. In our sample, 81% of affiliated loans and 10% of non-affiliated loans occur between two firms in the same industry. The high proportion of within-industry loans for affiliated loans is determined by the nature of the ownership or business affiliations. For non-affiliated loans, within-industry loans command lower adjusted interest rates (6.0% vs. 8.1%). For affiliated loans, within-industry loans also have lower adjusted interest rates (0.1% vs. 1.3%). The same-industry factor seems to have a larger impact on the interest rate than the same-city factor for affiliated loans, but again the impact is smaller than that for the non-affiliated loans.

Table 7 also reports the mean adjusted interest rate conditional on whether the borrower is a SOE. In China, SOEs usually enjoy better access to bank loans as major banks are also state-owned. The majority of the lenders of both affiliated loans and non-affiliated loans are SOEs (83% and 64%, respectively), but for non-affiliated loans, only 20% borrowers are SOEs (vs. 66% for affiliated loans), suggesting borrowers of non-affiliated firms are underprivileged firms that have restricted access to official financing. We observe that non-SOE borrowers pay significantly higher adjusted interest rates than SOE borrowers (8.8% vs. 4.2% for nonaffiliated loans, and 0.7% vs. 0.2% for affiliated loans). This reflects non-SEO firms' higher firm risk (they are often smaller firms) as well as their lower bargaining power due to their restricted access to official financing.

Table 7 shows that risky borrowers pay higher interest rates. Specifically, real-estate borrowers pay higher adjusted interest rates than non-real estate borrowers (9.5% vs. 6.6% for non-affiliated loans, and

2.8% vs. -0.2% for affiliated loans); borrowers with above-median industry return volatility pay higher rates than those with below-median volatility (9.0% vs. 6.7% for non-affiliated loans, and 0.5% vs. 0.1% for affiliated loans); and borrowers with above-median industry sales growth dispersion pay higher rates than those with below-median dispersion (8.5% vs. 6.8% for nonaffiliated loans, and 0.8% vs. -0.2% for affiliated loans). All the differences are statistically significant.

Next we estimate multivariate regressions to see whether borrower risk still explains the variation in interest rate after controlling for other factors. The dependent variable is the adjusted interest rate. For control variables, we include loan and lender characteristic variables as listed in Table 6. In addition, for affiliated loans, we include two additional variables: *ownership* which measures the lender's equity ownership in the borrower, and *trade relationship* which is a dummy variable equal to one if the borrower is a customer, a supplier, or a joint-venture partner of the lender.

Table 8 reports the regression results for the samples of non-affiliated loans (Panel A) and affiliated loans (Panel B) separately. The results suggest that the interest rate increases with borrower's risk. For both types of loans, the coefficients on all three borrower industry risk measures—*borrower industry median return volatility*, *borrower industry sales growth dispersion* and *real estate borrower*—are all positive and statistically significant at the 1% level. If the borrower is in the real-estate industry, the adjusted rate is higher by 2.5 percentage points for non-affiliated loans and 2.2 percentage points for affiliated loans. A one-standard deviation increase in the *industry sales growth dispersion* leads to a 0.9 percentage-point rate increase for non-affiliated loans and a 0.6 percentage-point rate increase for affiliated loans. A one-standard deviation increase in the industry *volatility* leads to a 1.9 percentage point rate increase for non-affiliated loans and a 0.7 percentage-point rate increase for affiliated loans. The coefficient on *SOE borrower* is significantly negative for non-affiliated loans. If the borrower is a SOE, the interest rate on average is lower by 3.5 percentage points. The coefficient on *SOE borrower*,

however, is non-significant for affiliated loans, possibly because affiliated parties receive favorable rates regardless of their SOE status.

Informational risk also has positive impact on the interest rate of both types of loans, and the effects are stronger for non-affiliated loans. If located in the same city as the lender, a borrower on average pays a lower interest rate (0.8–1.5 percentage points lower for non-affiliated borrowers and 0.4–0.5 percentage points lower for affiliated borrowers). A borrower in the same industry as the lender is also charged a lower rate (2.1–2.6 percentage points lower for non-affiliated borrowers and 0.5–1.1 percentage points lower for affiliated borrowers).

For both types of loans, the adjusted interest rate is negatively related to the loan maturity and positively related to the use of collateral or guarantees. This suggests that these contract terms are used simultaneously as complements to each other to control the investment risk. That is, in addition to charging higher rates, lenders will limit their risk exposure by forcing riskier borrowers to take shorter-term loans and to secure the debt with collateral or a guarantee. This observation is consistent with existing studies on bank loans (e.g. Flannery, 1986; Burger and Udell, 1990; Dennis, Nandy, and Sharpe, 2000). The effects of maturity and use of collateral/guarantee are stronger for non-affiliated loans than that for affiliated loans.

In summary, Table 8 shows that the pricing of both non-affiliated loans and affiliated loans take into account the borrowers' fundamental risk and information risk. Nonetheless, the rates of non-affiliated loans are much more sensitive to informational risk (whether the borrower is in the same city or same industry as the lender). As there is more information asymmetry between non-affiliated lenders and borrowers, being in the same city or industry helps in greater extent to mitigate the information problem. A SOE borrower also provides stronger assurance to non-affiliated lenders.

5.2 Loan rate and loan performance

As an alternative way to test whether the pricing of entrusted loans incorporates risk in an efficient way, we examine whether the interest rate can predict the future performance of loans. That is, if riskier loans command higher rates, then higher rates should be associated with higher likelihoods of default or other payback difficulty.

We manually collect information about the outcome of entrusted loans from firms' annual reports. The lending firm needs to make disclosure if a loan is delinquent, overdue or extended. By interviewing practitioners, we learn that loan extensions are usually due to borrowers having difficulty in paying back on time. We include 2,243 loans in this analysis that are originally due by the end of year 2013 (1782 affiliated loans and 461 non-affiliated loans).

Panel A of Table 9 presents the number of incidences of loan delinquency, overdue and extension by 2013 in our sample, and the distribution of these cases between affiliated and non-affiliated loans. There are a total of 194 such cases, 130 for affiliated loans and 64 for non-affiliated loans. Thus, the percentage of problematic affiliated loans is smaller than that of non-affiliated loans (7.3% vs. 13.9%). When there is a problem, a higher proportion of affiliated loans are extended (88%) than non-affiliated loans (70%). Panel A also reports the average loan amount for each type of problematic loans. The average amounts for delinquent, overdue and extended loans are 51, 99, and 139 million RMB, respectively. The average amount for non-problematic loans is 229 million RMB. This seems to suggest two things: (1) lenders tend to lend smaller amounts to riskier borrowers; and (2) when large amounts are involved, lenders may have more incentive to extend the loans.

Panel B of Table 9 compares the adjusted interest rate between problematic and non-problematic loans. For the subsample of non-affiliated loans, the *ex ante* interest rates are higher for problematic loans than for non-problematic loans. The average adjusted interest rate for loans that are overdue and

extended are 10.2% and 10.9%, respectively. In contrast, the average adjusted rate for non-problematic loans is 7.8%. The difference in rates is statistically significant between each group of problematic loans and the non-problematic loans.

By contrast, such differences are absent for affiliated loans. The average adjusted interest rate for loans that are delinquent, overdue, extended are 0.5%, -0.1%, and 0.6%, respectively. None of them is significantly different from the rate for non-problematic loans, which is 0.3%. This seems to suggest that the pricing of the affiliated loans, although taking into account borrowers' risk to some extent, does not incorporate risk in a full and efficient way.

We then estimate multivariate logit regressions to examine the determinants of loan performance. The dependent variable is a dummy equal to 1 if the loan is delinquent, overdue or extended. Our main variable of interest is the adjusted interest rate. We also control for other loan characteristics, borrower characteristics and lender characteristics as in Table 8. For borrower industry risk, we use the industry median return volatility. Our main results are robust if we use industry sales growth dispersion or a real estate borrower dummy.

Table 10 reports the regression results for non-affiliated loans (in Column 1) and affiliated loans (in Column 2). Consistent with the univariate results, Column 1 of Table 10 shows that for non-affiliated loans, the adjusted interest rate is positively related to the likelihood of the loan being extended, overdue or delinquent. The coefficient on the adjusted rate is positive and significant at the 1% level. Given all other explanatory variables are at their means, when the *adjusted interest rate* increases from its 25th percentile to 75th percentile, the probability of delinquent, overdue or extended increases from 4.5% to 13.9%. Thus the interest rate of non-affiliated loans strongly predicts future loan performance. This is consistent with the notion that riskier loans are charged with a higher interest rate *ex ante* and end up with more defaults *ex post*.

Furthermore, Column 1 shows that after including the interest rate, borrowers' characteristics mostly have no predictive power for loan performance. This indicates that the interest rate has incorporated the risk information contained in these variables. Thus non-affiliated loans are priced in a fairly efficient way. One exception is *same-city dummy* that has a significantly negative coefficient, suggesting that likelihood of problematic loans is smaller if the lender and the borrower are in the same city. In untabulated results, we observe that 7.5% of same-city non-affiliated loans turn out to be problematic whereas the ratio more than doubles for non-affiliated loans across cities (20.8%). This is consistent with the notion that there is less information asymmetry if lenders and borrowers are in the same geographical location. When in the same city, a lender is better at either screening borrowers, or enforcing the loan payment, or both. Although same-city loans receive lower interest rates (Table 8), Table 10 suggests that the interest rate still under-reacts to the information whether the borrower is in the same city as the lender.

Column 2 presents strikingly different results for affiliated loans. The adjusted interest rate has no predictive power for loan performance. This suggests that the pricing of this type of loan does not incorporate risk information sufficiently. Again this is consistent with the notion that affiliated loans are not driven by short-term profits but to support affiliated parties.

In short, the evidence in this section suggests that the pricing of both types of loans depends on borrower risk; however, the rate of non-affiliated loans incorporate risk in a more efficient way.

6. Wealth effects of entrusted loans

In this section, we analyze the value consequence of the entrusted loans to the lenders. We have shown that non-affiliated entrusted loans charge much higher interest rates than affiliated loans, and the latter type charges rates much lower than the market rate. This evidence alone, however, does not imply

that non-affiliated loans create value and affiliated loans destroy value. The lower-than-market rates of affiliated loans can be a form of long-term investments in its affiliated parties, as opposed to inefficient cross-subsidization. For non-affiliated loans, the loans may create value, destroy value, or receive fair compensation depending on whether the interest rates are high enough for the risk.

To address the question whether entrusted loans create value, we examine the stock market reactions to the loan announcement, assuming the market is efficient in incorporating the value consequence. For this analysis, we focus on the 547 cases (358 affiliated loans and 189 non-affiliated loans) where the lending firms make announcements about the loans before the annual reports. There is a sample selection issue since not all firms make entrusted loan announcements. We describe and address this issue in multivariate regressions below. We estimate the cumulative abnormal returns (CARs) around the announcement based on the market model, using the index return of stocks traded on the Shanghai and Shenzhen stock exchanges as the market proxy and the trading days [-150, -10] as the estimation period, where day 0 is the announcement day.

We first examine whether the announcement returns are significantly different from zero. If they are not, it suggests that these deals neither create nor destroy value, i.e., they are on average zero-NPV investments. If CARs are significantly positive (negative), there are two possibilities: one possibility is that these loans do create (destroy) values. Alternatively, these loans do not create (or destroy) values, but the fact that the lenders are making these loans can reveal to the market new positive (negative) information about the lenders. To distinguish the value-creation vs. the information-revelation hypothesis, we divide the loans into two groups: firms' first announcements vs. subsequent announcements, depending on whether it is the first time a firm announces such a loan during our sample period. If the abnormal returns are concentrated in firms' first loans, then they are more likely because

of information revelation as opposed to value creation. In contrast, the value-creation hypothesis predicts that the abnormal returns should be present in both first and subsequent loans.

Table 11 Panel A presents the mean CARs for affiliated loans and non-affiliated loans separately. We compute CARs for three time windows, trading days [-1, 1], [-3, 3] and [-5, 5] around the loan announcement, where day 0 is the announcement day. The results are consistent for all three CAR measures—the mean CAR is non-significant for affiliated loans, while it is significantly negative for non-affiliated loans. This suggests that affiliated loans neither create nor destroy value, but instead are zero-NPV investments. Despite their lower-than-market interest rates, investors view them as a form of investment that receives fair compensation in the future, rather than inefficient subsidization. In contrast, the negative CARs for non-affiliated loans suggest that this type of loans either destroys value, or conveys negative information about the lender.¹²

For each type of affiliated and non-affiliated loan, we then divide them into firms' first vs. subsequent loan announcements. For affiliated loans, there are no significant differences between the two groups of transactions. For non-affiliated loans, only the first announcements exhibit negative CARs while the subsequent announcements are associated with non-significant and near-zero CARs: the differences between the two groups are all significant at the 5% level. Take the mean CARs around days [-5, 5], for example. The average CAR for all non-affiliated loans is -1.39%, significant at the 10% level. The mean for firms' first non-affiliated loans is -3.78% and significant at the 1% level, whereas the mean for

¹² Chen, Jiang, Ljungqvist, Lu, and Zhou (2015) document evidence that state-owned business group tend to allocate capital to units with low investment opportunities, whereas private groups do the opposite. Our sample differs from theirs. Instead of studying business groups with the same ultimate controlling shareholder, we examine affiliated loans that are mostly between listed parent firms and subsidiaries; so the motives and results of supporting can be very different. We do examine whether affiliated loans made by non-SOE lenders create more values than those by SOE lenders. We find some evidence consistent with this conjecture. Specifically, the 3-day, 5-day, and 11-day announcement returns for non-SOE lenders are 0.05%, 0.99% and 1.20% respectively, while the numbers for SOE lenders are 0.20%, 0.11% and 0.21%. However, none of the differences between the two groups are statistically significant.

subsequent non-affiliated loans is a non-significant 0.33% (the difference with that of first loans is significant at the 1% level).

The fact that the negative CAR is concentrated in firms' first announcements of non-affiliated loans is consistent with the information-revelation hypothesis. That is, upon learning a firm's making non-affiliated loans, investors realize that the firm lacks good investment opportunities in their main businesses, which is bad news. These loans themselves, on the other hand, do not destroy value, as evidenced by non-significant CARs for subsequent similar transactions. Next, we estimate multivariate regressions of CARs. We include *a firm's first announcement*—a dummy equal to one if it is the first time it announces an affiliated or non-affiliated loan—in the regression as the univariate results show that this is an important factor. In addition, the abnormal returns may also depend on the terms of the loans. So we include $\log(\text{loan amount})$, adjusted interest rate, maturity, and the dummy for collateral or guarantee.

We note there is a selection issue in examining the announcement returns since not all firms make such announcements. Instead many of them make the required disclosure in their annual reports, together with other important disclosures, such as earnings announcements. The regulatory requirement on making entrusted loan announcements is vague—firms need to make announcements for “material” investments and events, although there is no technical definition for what is considered material. To address this, we investigate whether the choice of loan announcement depends on loan amount and lender characteristics. We then run a two-stage Heckman test, where the first-stage is a logit regression of whether or not a loan announcement is made, and the second-stage is a regression of CARs.

Table 11 Panel B reports the regression of CARs for affiliated and non-affiliated loans. The dependent variable is the 11-day CARs. Results are similar if we use the 3-day or 7-day CARs. We report both the OLS and the Heckman 2nd-stage regression results, which yield similar results. For non-

affiliated loans, the most important determinant of CARs is the dummy of *a firm's first announcement*. It has a highly significant and negative coefficient, suggesting that firms' first non-affiliated loan announcements are associated with much more negative abnormal returns, which is consistent with the univariate results. We do not find evidence that loan characteristics such as loan amount or interest rate have significant impact on market reactions, consistent with the notion that these loan terms are endogenously chosen. For affiliated loans, the only coefficient significant at the conventional levels is that on *a firm's first announcement* in the OLS regression. The significance disappears in the Heckman regression.

The bottom portion of Panel B displays the results of Heckman's first-stage regressions for affiliated and non-affiliated loans, respectively. For both types of loans, we observe that the likelihood of loan announcements increases with the loan amount, and decreases with the firm size in terms of assets. This makes sense since the larger the loan size relative to the lender's asset value, the more "material" the transaction is. In addition, for affiliated loans, SOE lenders are less likely to make announcements.

In summary, the results in this section suggest that both affiliated and non-affiliated loans are fairly-compensated investments. Despite the lower-than-market interest rates, affiliated loans do not destroy value. Firms' first non-affiliated loans reveal lenders' poor investment opportunities in their main businesses, to which investors respond negatively.

7. Conclusions

We conduct the first large-sample transaction-level study of China's shadow banking system. Specifically, we examine the entrusted loans made by listed firms. These non-financial firms engage in entrusted loans because they can take advantage of their privileged access to the official financing system (such as bank loans and the stock market) to provide credit to less privileged firms. The likelihood and

the amount of entrusted loans increase when credit is tight in the economy. Thus these loans are market reactions to credit shortage.

Affiliated and non-affiliated loans have different motives. Lenders of affiliated loans are highly profitable and use the loans to support their subsidiaries, suppliers, or customers. In contrast, Lenders of non-affiliated loans suffer low growth rates and hence use the loans as an alternative investment channel to boost their earnings.

Consistent with the different motives, there are striking differences between the two types of loans. First, non-affiliated loans charges the market interest rate, which is about twice the official bank loan rate, whereas the average rate for affiliated loans is close to the official rate. This shows how distorted the official banking system is. Second, most affiliated loans are within-industry loans, whereas close to half of the non-affiliated loans flow into the real estate and construction industry which the regulators try to restrict capital from reaching. Third, we find evidence that the pricing of both types of loans depends on borrowers' fundamental and information risks; however, the rates of non-affiliated loans incorporates risk more efficiently.

Finally, our investigation of announcement returns suggests that both affiliated and non-affiliated loans are fairly-compensated investments. Thus, the lower-than-market interest rates of affiliated loans are viewed as a form of investment rather than inefficient subsidization.

References

- Acharya, V., Qian, J., Yang, Z., 2016. In the shadow of banks: wealth management products and issuing banks' risk in China, Draft paper February 2016.
- Allen, F., Qian, J., Qian, M., 2005. Law, finance, and economic growth in China. *Journal of Financial Economics* 77(1), 57-116.
- Allen, F., Qian, M., Xie, J., 2013. Understanding informal financing, working paper.
- Ayyagari, M., Demirgüç-Kunt, A., Maksimovic, V., 2010. Formal versus informal finance: Evidence from China. *Review of Financial Studies* 23, 3048–3097.
- Berger, A., Udell, G., 1990. Collateral, Loan Quality, and Bank Risk. *Journal of Monetary Economics* 25, 21–42.
- Berger, A., Udell, G., 1995. Relationship lending and lines of credit in small firm finance. *Journal of Business* 68, 351–381.
- Buchuk, D., Larrain, B., Munoz, F., Urzua, F., 2014. The internal capital markets of business groups: Evidence from intra-group loans. *Journal of Financial Economics* 112, 190-212.
- Chen, D., Jiang, D., Ljungqvist, A., Lu, H., Zhou, M., 2015. State capitalism vs. private enterprise. Working paper.
- Chen K., Ren. J., Zha T., 2016. What We Learn from China's Rising Shadow Banking: Exploring the Nexus of Monetary Tightening and Banks' Role in Entrusted Lending. Working paper.
- Cull, R., Xu, L.C., Zhu, T., 2009. Formal finance and trade credit during China's transition. *Journal of Financial Intermediation* 18, 173–192.
- Degryse, H., Ongena, S., 2005. Distance, lending relationships, and competition. *Journal of Finance* 60(1), 231-266.
- Dennis, S., Nandy, D., Sharpe, I.G., 2000. The Determinants of contract terms in bank revolving credit agreements. *Journal of Financial and Quantitative Analysis* 35, 87–110.
- Elliott, D., Kroeber, A., and Qiao, Y., 2015. Shadow banking in China: A primer. Working paper, The Brookings Institution, Economic Studies.
- Financial Stability Board. 2012. Global Shadow Banking Monitoring Report.
- Financial Stability Board. 2014. Global Shadow Banking Monitoring Report.
- Fisman, R., Love, I., 2003. Trade credit, financial intermediary development, and industry growth. *Journal of Finance* 58(1), 353-374.

- Flannery, M., 1986. Asymmetric information and risky debt maturity choice. *Journal of Finance* 41, 18–38.
- Gopalan, R., Nanda, V., Seru, A., 2007. Affiliated firms and financial support: Evidence from Indian business groups. *Journal of Financial Economics* 86, 759-795.
- He, Q., Lu, L., Ongena, S., 2016. Who gains from credit granted between firms? Evidence from inter-corporate loan announcements made in China. Working Paper.
- International Monetary Fund, 2014, IMF Country Report No. 14/235 People’s Republic of China.
- Jiang, G., Lee, C.M.C., Yue, H. 2010. Tunneling through intercorporate loans: The China experience. *Journal of Financial Economics* 98, 1-20.
- La Porta, R., Lopez-de-Silanes, F., Zamapripa, G., 2003. Related lending. *The Quarterly Journal of Economics*, February, 231-268.
- Mian, A., 2006. Distance Constraints: The limits of foreign lending in poor economies. *Journal of Finance* 61(3), 1465-1505.
- Moody’s, 2013. Risks to China’s lenders from shadow banking: Frequently Asked Questions.
- Petersen, M.A., Rajan, R.G., 1994. The benefits of lending relationships: Evidence from small business data. *Journal of Finance* 49, 3–37.
- Song, Z., Storesletten, K., Zilibotti, F., 2011. Growing like China. *American Economic Review* 101(1), 196-233.
- Wei, L., Davis, B., January 14 2014, Regulators at odds on reining in China's shadow lending, *Wall Street Journal*.
- Wu, J., Gyourko, J., Deng, Y., 2012. Evaluating conditions in major Chinese housing markets. *Regional Science and Urban Economics* 42, 531-543.

Appendix: Variable Definition

<i>A firm's first announcement</i>	A dummy equal to one if it is the first time a firm announces a (affiliated or non-affiliated) entrusted loan, and zero otherwise
<i>Adjusted interest rate (%)</i>	A loan's interest rate minus the official bank lending rate of same maturity
<i>Affiliated loan</i>	A dummy equal to one if a firm made a loan to an affiliated party, and zero otherwise
<i>Asset (billion RMB)</i>	Total assets at the beginning of the year when the loan is made, adjusted to constant year 2013 RMBs
<i>Borrower industry median return volatility (%)</i>	The median of the standard deviation of daily return in the borrower industry during the year before the loan is made
<i>Borrower industry sales growth dispersion (%)</i>	The standard deviation of sales growth in the borrower industry during the year before the loan is made
<i>CAR [-5, +5] (%)</i>	The cumulative abnormal return 11 days around the loan announcement, calculated based on the market model, where the estimation period is during trading days [-150, -10], where day 0 is the announcement day
<i>Change of debt (%)</i>	Change of total debt in the year before when the loan is made, divided by the average of assets at the beginning and the end of the year
<i>Collateral</i>	A dummy equal to one if a loan requires collateral, and zero otherwise
<i>Collateral or Guarantee</i>	A dummy equal to one if a loan requires collateral or third-party guarantee, and zero otherwise
<i>Debt/asset (%)</i>	The ratio of total debt to assets at the beginning of the year when the loan is made
<i>Delinquent or overdue or extend dummy</i>	A dummy equal to one if a loan is delinquent, extended or overdue, and zero otherwise
<i>Guarantee</i>	A dummy equal to one if a loan requires third-party guarantee, and zero otherwise
<i>Shibor (%)</i>	The daily average of China's official interbank offered rate in the year when the loan is made
<i>Loan amount (Million RMB)</i>	The RMB amount of a loan, adjusted to constant year 2013 RMBs
<i>Loan amount/assets (%)</i>	The total loan amount a firm made during a year, divided by firm assets at the beginning of the year when the loan is made
<i>Loan dummy</i>	A dummy equal to one if a firm made a loan in a certain year, and zero otherwise
<i>Maturity (Month)</i>	The maturity of a loan
<i>Ownership</i>	The lender's equity ownership in the borrower (in decimals). This variable is only defined for affiliated loans.
<i>Purpose of loan – debt retirement dummy</i>	A dummy equal to one if the stated purpose of a loan is for debt retirement, and zero otherwise

<i>Purpose of loan – specified project dummy</i>	A dummy equal to one if the stated purpose of a loan is for a specific investment project, and zero otherwise
<i>Real estate borrower</i>	A dummy equal to one if the borrower is in the real estate and construction industry, and zero otherwise
<i>Real estate lender</i>	A dummy equal to one if the lender is in the real estate and construction industry, and zero otherwise
<i>ROA (%)</i>	Return on assets in the year before the entrusted loan is made
<i>Sales growth (%)</i>	The sales growth rate in the year before the entrusted loan is made
<i>Same city</i>	A dummy equal to one if the borrower is in the same city as the lender, and zero otherwise
<i>Same industry</i>	A dummy equal to one if the borrower is in the same industry as the lender, and zero otherwise
<i>SOE borrower</i>	A dummy equal to one if the borrower is a state owned enterprise, and zero otherwise
<i>SOE lender</i>	A dummy equal to one if the lender is a state owned enterprise, and zero otherwise
<i>Trade relationship</i>	A dummy equal to one if the borrower is a customer, or a supplier, or a joint-venture partner of the lender. This variable is only defined for affiliated loans.

Table 1 Entrusted Loans over Time

The sample includes 2,995 entrusted loans during 2004-2013. All RMB values are adjusted to constant year 2013 RMBs.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
# of firms that make entrusted loans	55	51	53	65	99	95	116	176	177	220	1,107
# of entrusted loans	116	98	102	151	209	208	280	530	626	675	2,995
Aggregate loan amount (Billion RMB)	12.6	9.3	12.6	23.6	38.2	32.5	41.1	100.5	202.2	219.2	691.8

Table 2 Summary Statistics

The sample includes the 18,003 firm-years observations for all the listed non-finance Chinese firms during 2004 – 2013. Variables definitions are in Appendix. All RMB values are adjusted to constant year 2013 RMBs. Continuous variables are winsorized at 1% and 99%.

	(1) <i>Loan</i> <i>dummy=0</i> (n=16,896)	(2) <i>Loan</i> <i>dummy=1</i> (n=1,107)	(3) Non-affiliated loan (n=289)	(4) Affiliated loan (n=800)	(2)-(1)	(3)-(1)	(4)-(1)	(4)-(3)
<i>Asset (billion RMB)</i>	5.8	18.1	10.6	21.0	12.3***	4.8***	15.2***	10.4***
<i>ROA (%)</i>	6.9	7.6	7.4	7.6	0.7***	0.5	0.7**	0.2
<i>Sales growth (%)</i>	23.6	24.4	18.0	26.5	0.8	-5.6*	2.9	8.5**
<i>Debt/asset (%)</i>	20.7	21.6	16.7	23.5	0.9*	-4.0***	2.8***	6.8***
<i>Change of debt (%)</i>	4.0	7.8	5.0	8.7	3.8***	1.0	4.7***	3.7***
<i>SOE lender (%)</i>	54.6	73.8	56.7	79.9	19.2***	2.1	25.3***	23.2***
<i>Real estate lender (%)</i>	8.4	10.4	7.3	11.8	2.0**	-1.1	3.4***	4.5**

Table 3 Determinants of Loan Decisions

The sample includes the 18,003 firm-years observations for all the listed non-finance Chinese firms during 2004 – 2013. We run logit regressions using *Loan dummy* as the dependent variable, and run Tobit regressions using *Loan amount/asset* as the dependent variable. Variables definitions are in Appendix. Financial variables are winsorized at 1% and 99%.

	<i>Logit regression</i>			<i>Tobit regression</i>		
	<i>Loan Dummy</i>			<i>Loan amount/asset (%)</i>		
	All firms	Non-affiliated loan firms and firms without entrusted loans	Affiliated loan firms and firms without entrusted loans	All firms	Non-affiliated loan firms and firms without entrusted loans	Affiliated loan firms and firms without entrusted loans
<i>Ln (asset)</i>	0.49*** (0.00)	0.39*** (0.00)	0.52*** (0.00)	3.37*** (0.00)	2.85*** (0.00)	3.37*** (0.00)
<i>Shibor (%)</i>	0.28*** (0.00)	0.34*** (0.00)	0.27*** (0.00)	2.09*** (0.00)	2.70*** (0.00)	1.70*** (0.00)
<i>ROA (%)</i>	0.01** (0.02)	-0.00 (0.81)	0.02*** (0.00)	0.08** (0.03)	-0.004 (0.95)	0.11*** (0.00)
<i>Sales growth (%)</i>	-0.001** (0.04)	-0.003** (0.03)	-0.001 (0.25)	-0.01*** (0.00)	-0.03** (0.02)	-0.01 (0.13)
<i>Debt/asset (%)</i>	-0.01*** (0.01)	-0.02*** (0.00)	0.00 (0.74)	-0.07*** (0.00)	-0.17*** (0.00)	-0.01 (0.50)
<i>Change of debt (%)</i>	0.01*** (0.00)	0.00 (0.44)	0.01*** (0.00)	0.08*** (0.00)	0.03 (0.32)	0.07*** (0.00)
<i>SOE lender</i>	0.47*** (0.00)	-0.12 (0.36)	0.75*** (0.00)	3.04*** (0.00)	-1.05 (0.32)	4.46*** (0.00)
<i>Real estate lender</i>	0.10 (0.36)	-0.25 (0.28)	0.23** (0.05)	2.21*** (0.01)	-1.53 (0.39)	3.31*** (0.00)
<i>Cons.</i>	-14.49*** (0.00)	-12.71*** (0.00)	-15.89*** (0.00)	-105.86*** (0.00)	-105.61*** (0.00)	-108.54*** (0.00)
N	18,003	17,185	17,696	18,003	17,185	17,696
Pseudo R2	0.09	0.04	0.11	0.04	0.02	0.05

Table 4 Interest Rates

This table reports the average interest rate for non-affiliated and affiliated loans, respectively, and by industry.

Industry of the borrower	Non-affiliated loans			Affiliated loans		
	N	Interest rate (%)	Adjusted interest rate (%)	N	Interest rate (%)	Adjusted interest rate (%)
All sample	587	13.9	7.9	2,373	6.4	0.3
Agriculture	5	11.2	5.4	9	7.4	1.3
Auto & Auto parts	3	9.4	3.0	211	5.2	-0.8
Building materials	11	10.1	4.4	50	6.0	0.2
Chemicals	14	10.5	4.5	173	5.8	-0.2
Coal & Mining	5	9.2	3.3	155	6.3	0.1
Commerce	39	13.4	7.5	20	6.5	0.4
Conglomerate	88	12.5	6.6	18	7.9	1.7
Culture & Media	7	9.5	3.6	1	6.2	0.0
Education, Finance, and Others	15	11.0	5.1	7	7.3	1.3
Electrical household appliances	12	14.8	8.8	32	6.5	0.4
Electronics & IT	11	12.9	6.8	80	6.3	0.2
Food	9	15.7	9.7	154	5.5	-0.6
Hotel & Tourism	23	15.9	9.9	31	5.1	-1.2
Machinery	9	12.2	6.5	148	5.8	-0.2
Nonferrous metal	1	-	-	24	5.9	0.1
Other light industry	9	11.6	5.6	4	7.1	0.9
Paper & Printing	5	16.1	10.3	55	5.5	-0.6
Pharmacy	9	12.4	6.5	127	6.4	0.3
Real estate & Construction	269	15.5	9.5	364	9.1	3.0
Steel	8	11.8	5.8	27	5.9	-0.0
Transportation	26	11.4	5.4	230	5.6	-0.4
Textile & Garment	2	6.9	1.2	68	5.9	-0.1
Utility	7	11.1	5.0	385	6.0	-0.1

Table 5 Industry and Geographical Distributions of Entrusted Loans

Panel A shows the amount of loans (in billions of RMB) by lender and borrower industries. Panel B shows the amount of lending and borrowing by province or area. All values are in billions of constant year 2013 RMBs. The sample includes 2,960 entrusted loans during 2004-2013. We exclude 35 entrusted loans (5.8 billion RMB) that the borrowers are unknown.

Panel A: Industry distribution

	Lenders			Borrowers		
	All sample	Non-affiliated loans	Affiliated Loans	All sample	Non-affiliated loans	Affiliated loans
Agriculture	0.5	0.5	0.0	1.3	0.6	0.7
Auto & Auto parts	48.7	1.9	46.8	46.4	0.4	46.0
Building materials	9.2	0.2	9.0	10.7	1.7	9.0
Chemicals	25.5	5.0	20.5	21.2	1.1	20.1
Coal & Mining	248.9	1.8	247.1	257.6	0.7	256.9
Commerce	16.8	9.3	7.5	4.5	1.8	2.7
Conglomerate	7.8	0.6	7.2	11.8	8.6	3.2
Culture & Media	5.0	2.9	2.1	0.3	0.2	0.1
Education, Finance, and Others	0.0	0.0	0.0	2.0	1.0	1.0
Electrical household appliances	3.5	1.7	1.8	2.5	0.6	1.9
Electronics & IT	10.4	4.0	6.4	5.8	0.8	5.0
Food	11.7	1.0	10.7	10.7	0.3	10.4
Hotel & Tourism	1.1	0.3	0.8	4.5	2.5	2.0
Machinery	14.9	1.6	13.3	13.5	0.9	12.6
Nonferrous metal	4.7	1.6	3.1	6.6	0.1	6.5
Other light industry	1.1	0.7	0.4	0.3	0.3	0.0
Paper & Printing	7.6	0.3	7.3	7.2	0.3	6.9
Pharmacy	11.5	1.4	10.1	9.7	0.3	9.4
Real estate & Construction	53.1	4.2	48.9	99.7	21.9	77.8
Steel	12.1	0.2	11.9	4.3	0.4	3.9
Textile & Garment	6.8	2.6	4.2	2.3	0.1	2.2
Transportation	38.5	3.5	35.0	31.5	2.7	28.8
Utility	146.6	2.2	144.4	131.6	0.2	131.4
Total	686.0	47.5	638.5	686.0	47.5	638.5

Panel B: Geographical distribution

Province/Area	Lenders			Borrowers		
	All Sample	Non-affiliated loans	Affiliated loans	All Sample	Non-affiliated loans	Affiliated loans
Anhui	8.0	2.5	5.5	10.3	2.6	7.7
Beijing	351.9	2.7	349.2	292.8	2.9	289.9
Chongqing	2.7	2.0	0.7	5.1	1.6	3.5
Fujian	6.7	0.3	6.4	5.0	0.7	4.3
Gansu	2.8	0.0	2.8	1.9	0.1	1.8
Guangdong	30.5	3.3	27.2	28.9	1.9	27.0
Guangxi	5.7	0.2	5.5	6.1	1.8	4.3
Guizhou	2.6	0.1	2.5	4.0	0.7	3.3
Hainan	0.8	0.2	0.6	2.7	0.2	2.5
Hebei	27.6	0.5	27.1	18.9	0.7	18.2
Heilongjiang	0.8	0.0	0.8	1.6	0.0	1.6
Henan	5.3	1.2	4.1	7.9	1.2	6.7
Hong Kong	0.0	0.0	0.0	2.7	0.0	2.7
Hubei	5.7	1.1	4.6	11.2	1.5	9.7
Hunan	2.1	1.9	0.2	5.8	2.1	3.7
Inner Mongolia	0.0	0.0	0.0	34.4	0.0	34.4
Jiangsu	16.9	4.3	12.6	39.5	4.8	34.7
Jiangxi	0.7	0.4	0.3	4.5	0.2	4.3
Jilin	0.9	0.2	0.7	1.3	0.0	1.3
Liaoning	3.9	0.1	3.8	10.7	0.2	10.5
Ningxia	0.0	0.0	0.0	1.5	0.0	1.5
Qinghai	1.0	0.1	0.9	0.8	0.2	0.6
Shaanxi	2.5	0.0	2.5	12.0	0.3	11.7
Shandong	45.6	2.4	43.2	24.1	2.4	21.7
Shanghai	82.4	2.9	79.5	69.5	5.3	64.2
Shanxi	2.6	0.0	2.6	9.0	0.0	9.0
Sichuan	3.2	0.2	3.0	10.6	0.5	10.1
Tianjin	11.6	0.5	11.1	6.5	0.3	6.2
Tibet	0.1	0.1	0.0	0.9	0.0	0.9
Xinjiang	2.9	0.4	2.5	7.7	0.4	7.3
Yunnan	1.5	0.3	1.2	7.1	0.4	6.7
Zhejiang	57.0	19.6	37.4	40.1	14.5	25.6
Foreign borrower	-	-	-	0.9	0.0	0.9
Total	686.0	47.5	638.5	686.0	47.5	638.5

Table 6 Descriptive Statistics for Entrusted Loans

The sample includes 2,960 entrusted loans during 2004-2013. The number of non-missing observations for (*adjusted*) *interest rate* and *maturity* are 2,812 and 2,863, respectively. Variables definitions are in Appendix. All RMB values are adjusted to constant year 2013 RMBs. Financial variables are winsorized at 1% and 99%.

	All sample	Non-affiliated loan	Affiliated loan	Diff
<u>Loan characteristics</u>				
<i>Loan amount (million RMB)</i>	231.8	80.9	269.1	-188.2*
<i>Interest rate (%)</i>	7.9	13.9	6.4	7.5***
<i>Adjusted interest rate (%)</i>	1.8	7.9	0.3	7.6***
<i>Maturity (Month)</i>	16.4	11.8	17.5	-5.7***
<i>Collateral or Guarantee (%)</i>	23.9	74.1	11.4	62.7***
<i>Collateral (%)</i>	18.0	55.4	8.8	46.6***
<i>Guarantee (%)</i>	15.0	55.7	5.0	50.7***
<i>Purpose of loan – debt retirement dummy (%)</i>	2.4	0.0	3.0	-3.0***
<i>Purpose of loan – specified project dummy (%)</i>	5.2	3.1	5.8	-2.7***
<u>Borrower characteristics</u>				
<i>Same city (%)</i>	38.8	51.3	35.7	15.6***
<i>Same industry (%)</i>	66.5	9.7	80.6	-70.9***
<i>SOE borrower (%)</i>	66.3	19.9	77.8	-57.9***
<i>Real estate borrower (%)</i>	21.8	46.0	15.8	30.2***
<i>Borrower industry sales growth dispersion (%)</i>	62.3	79.0	58.1	20.9***
<i>Borrower industry median return volatility (%)</i>	2.8	2.8	2.8	0.0
<u>Lender characteristics</u>				
<i>SOE lender (%)</i>	79.5	64.1	83.3	-19.2***
<i>Real estate lender (%)</i>	8.4	4.9	9.3	-4.4***
<i>Asset (billion RMB)</i>	34.8	13.3	40.1	-26.8***
<i>Debt/asset (%)</i>	22.9	16.0	24.5	-8.5***
<i>Change of debt (%)</i>	7.9	5.2	8.6	-3.4***
N	2,960	587	2,373	

Table 7 Interest Rate of Non-affiliated Loans vs. Affiliated Loans

This table compares the mean adjusted interest rates between subsamples of loans differing in borrower risk measures. For dummy variables, we compare subsamples with (“yes”) and without the respective characteristic (“no”). For continuous variables, we compare subsamples with high (above-median) vs. low (below-median) values of the respective risk measure. The sample includes 2,812 entrusted loans that have interest rate information during 2004-2013. Variables definitions are in Appendix.

	Non-affiliated loans			Affiliated loans		
	Yes	No	Diff	Yes	No	Diff
<i>Same city</i>	7.2	8.6	-1.4***	0.2	0.4	-0.2*
<i>Same industry</i>	6.0	8.1	-2.1***	0.1	1.3	-1.2***
<i>SOE Borrower</i>	4.2	8.8	-4.6***	0.2	0.7	-0.5***
<i>Real estate borrower</i>	9.5	6.6	2.9***	2.8	-0.2	3.0***
	High	Low	Diff	High	Low	Diff
<i>Borrower industry median return volatility (%)</i>	9.0	6.7	2.3***	0.5	0.1	0.4***
<i>Borrower industry sales growth dispersion (%)</i>	8.5	6.8	1.7***	0.8	-0.2	1.0***

Table 8 Determinants of Interest Rates of Entrusted Loans

The sample includes 2,808 entrusted loans for which the information of interest rate and maturity are available during 2004-2013. Variables definitions are in Appendix. Financial variables are winsorized at 1% and 99%.

Panel A: Non-affiliated loans

<i>Adjusted interest rate (%)</i>	(1)	(2)	(3)	(4)
<u>Loan characteristics</u>				
<i>Maturity (Month)</i>	-0.14*** (0.00)	-0.15*** (0.00)	-0.16*** (0.00)	-0.10*** (0.00)
<i>Collateral or Guarantee</i>	2.09*** (0.00)	2.06*** (0.00)	2.12*** (0.00)	2.03*** (0.00)
<i>Purpose of loan – specified project dummy</i>	-0.88 (0.40)	-0.83 (0.42)	-1.02 (0.31)	-0.41 (0.69)
<u>Borrower characteristics</u>				
<i>Same city</i>	-1.33*** (0.00)	-1.39*** (0.00)	-1.53*** (0.00)	-0.76** (0.03)
<i>Same industry</i>	-2.57*** (0.00)	-2.10*** (0.00)	-2.09*** (0.00)	-2.59*** (0.00)
<i>Borrower industry median return volatility (%)</i>	2.67*** (0.01)			
<i>Borrower industry sales growth dispersion (%)</i>		0.02*** (0.00)		
<i>Real estate borrower</i>			2.50*** (0.00)	
<i>SOE borrower</i>				-3.54*** (0.00)
<u>Lender characteristics</u>				
<i>SOE lender</i>	1.75*** (0.00)	1.63*** (0.00)	1.59*** (0.00)	1.58*** (0.00)
<i>Real estate lender</i>	-0.48 (0.60)	-0.77 (0.40)	-0.94 (0.30)	-0.80 (0.36)
<i>Ln (asset)</i>	0.41** (0.02)	0.33* (0.07)	0.29* (0.10)	0.47*** (0.01)
<i>Debt/asset (%)</i>	0.06*** (0.00)	0.06*** (0.00)	0.06*** (0.00)	0.05*** (0.00)
<i>Change of debt (%)</i>	0.03** (0.05)	0.03** (0.03)	0.03** (0.04)	0.03** (0.02)
<i>Year fixed effect</i>	Yes	Yes	Yes	Yes
<i>N</i>	566	566	566	566
<i>Adj R2</i>	0.32	0.33	0.36	0.38

Panel B: Affiliated loans

<i>Adjusted interest rate (%)</i>	(1)	(2)	(3)	(4)
<u>Loan characteristics</u>				
<i>Maturity (Month)</i>	-0.005 (0.12)	-0.006** (0.05)	-0.004 (0.22)	-0.006* (0.08)
<i>Collateral or Guarantee</i>	0.66*** (0.00)	0.75*** (0.00)	0.74*** (0.00)	0.68*** (0.00)
<i>Purpose of loan – debt retirement dummy</i>	-0.30 (0.21)	-0.12 (0.61)	-0.23 (0.32)	-0.27 (0.27)
<i>Purpose of loan – specified project dummy</i>	-0.81*** (0.00)	-0.71*** (0.00)	-0.60*** (0.00)	-0.77*** (0.00)
<u>Borrower characteristics</u>				
<i>Same city</i>	-0.40*** (0.00)	-0.50*** (0.00)	-0.52*** (0.00)	-0.41*** (0.00)
<i>Same industry</i>	-1.06*** (0.00)	-0.67*** (0.00)	-0.50*** (0.00)	-1.12*** (0.00)
<i>Borrower industry median return volatility (%)</i>	0.90*** (0.00)			
<i>Borrower industry sales growth dispersion (%)</i>		0.02*** (0.00)		
<i>Real estate borrower</i>			2.24*** (0.00)	
<i>SOE borrower</i>				-0.29 (0.13)
<i>Ownership</i>	-1.05*** (0.00)	-1.03*** (0.00)	-1.11*** (0.00)	-1.03*** (0.00)
<i>Trade relationship</i>	-1.21*** (0.00)	-1.09*** (0.00)	-1.20*** (0.00)	-1.45*** (0.00)
<u>Lender characteristics</u>				
<i>SOE lender</i>	0.05 (0.68)	0.00 (0.98)	0.05 (0.65)	0.25 (0.21)
<i>Real estate lender</i>	2.60*** (0.00)	1.83*** (0.00)	1.07*** (0.00)	2.78*** (0.00)
<i>Ln (asset)</i>	-0.21*** (0.00)	-0.23*** (0.00)	-0.22*** (0.00)	-0.22*** (0.00)
<i>Debt/asset (%)</i>	0.008*** (0.00)	0.005** (0.05)	0.004 (0.12)	0.005** (0.04)
<i>Change of debt (%)</i>	0.02*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.02*** (0.00)
<i>Year fixed effect</i>	Yes	Yes	Yes	Yes
<i>N</i>	2,225	2,225	2,225	2,225
<i>Adj R2</i>	0.27	0.31	0.33	0.26

Table 9 Performance of Entrusted Loans

The sample includes 2,243 entrusted loans during 2004-2013. We exclude loans that are not due by the end of year 2013. RMB values are adjusted to constant year 2013 RMBs.

Panel A: Frequency of loan delinquency or extension or overdue

	All Sample	Non-affiliated loans	Affiliated loans	Average loan amount (million RMB)
Delinquency due to borrower bankruptcy	3	0	3	50.8
Overdue	32	19	13	98.8
Extended (on average by 11 months)	159	45	114	138.6
Total	194 (8.6%)	64 (13.9%)	130 (7.3%)	

Panel B: Adjusted interest rates (%) for non-problematic loans vs. problematic loans

	(1) Delinquent loans	(2) Overdue loans	(3) Extended loans	(4) Non-problematic loans	(1)-(4)	(2)-(4)	(3)-(4)
Non-affiliated loan	n/a	10.2	10.9	7.8	n/a	2.4*	3.1***
Affiliated loan	0.5	-0.1	0.6	0.3	0.2	-0.4	0.3
All sample	0.5	6.1	3.5	1.8	-1.3	4.3***	1.7***

Table 10 Determinants of Loan Performance: Logistic Regressions

The sample includes 440 non-affiliated loans and 1,636 affiliated loans for which the information of interest rate, maturity and ownership are available during 2004-2013. We exclude loans that are not due by the end of 2013. Variables definitions are in Appendix. Financial variables are winsorized at 1% and 99%.

<i>Delinquent or overdue or extend dummy</i>	(1) Non-affiliated loans	(2) Affiliated loans
<u>Loan characteristics</u>		
<i>Adjusted interest rate (%)</i>	0.15*** (0.00)	0.04 (0.33)
<i>Maturity (Month)</i>	0.08*** (0.01)	-0.02 (0.15)
<i>Collateral or Guarantee</i>	0.37 (0.40)	-0.63 (0.14)
<i>Purpose of loan – debt retirement dummy</i>		-0.94 (0.21)
<i>Purpose of loan – specified project dummy</i>	1.19* (0.08)	1.27*** (0.00)
<u>Borrower characteristics</u>		
<i>Same city</i>	-0.91*** (0.01)	0.08 (0.71)
<i>Same industry</i>	0.47 (0.44)	-0.02 (0.92)
<i>SOE borrower</i>	0.30 (0.57)	-0.50 (0.24)
<i>Borrower industry median return volatility (%)</i>	-1.29 (0.18)	0.80* (0.09)
<i>Ownership</i>		-0.49 (0.25)
<i>Trade relationship</i>		-1.52** (0.02)
<u>Lender characteristics</u>		
<i>SOE lender</i>	0.64* (0.09)	0.85* (0.08)
<i>Real estate lender</i>	0.31 (0.68)	0.02 (0.95)
<i>Ln (asset)</i>	-0.22 (0.24)	0.13* (0.10)
<i>Debt/asset (%)</i>	-0.01 (0.35)	-0.003 (0.67)
<i>Change of debt (%)</i>	-0.02 (0.18)	-0.003 (0.68)
<i>Year fixed effect</i>	Yes	Yes
<i>N</i>	440	1,636
<i>Adj R2</i>	0.23	0.07

Table 11 Market Reaction to Entrusted Loan Announcements

The cumulative abnormal return (CAR) is calculated based on the market model, where the index return of stocks traded on Shanghai and Shenzhen stock exchanges is used as the market proxy and the estimation period is during trading days [-150, -10], where day 0 is the announcement day.

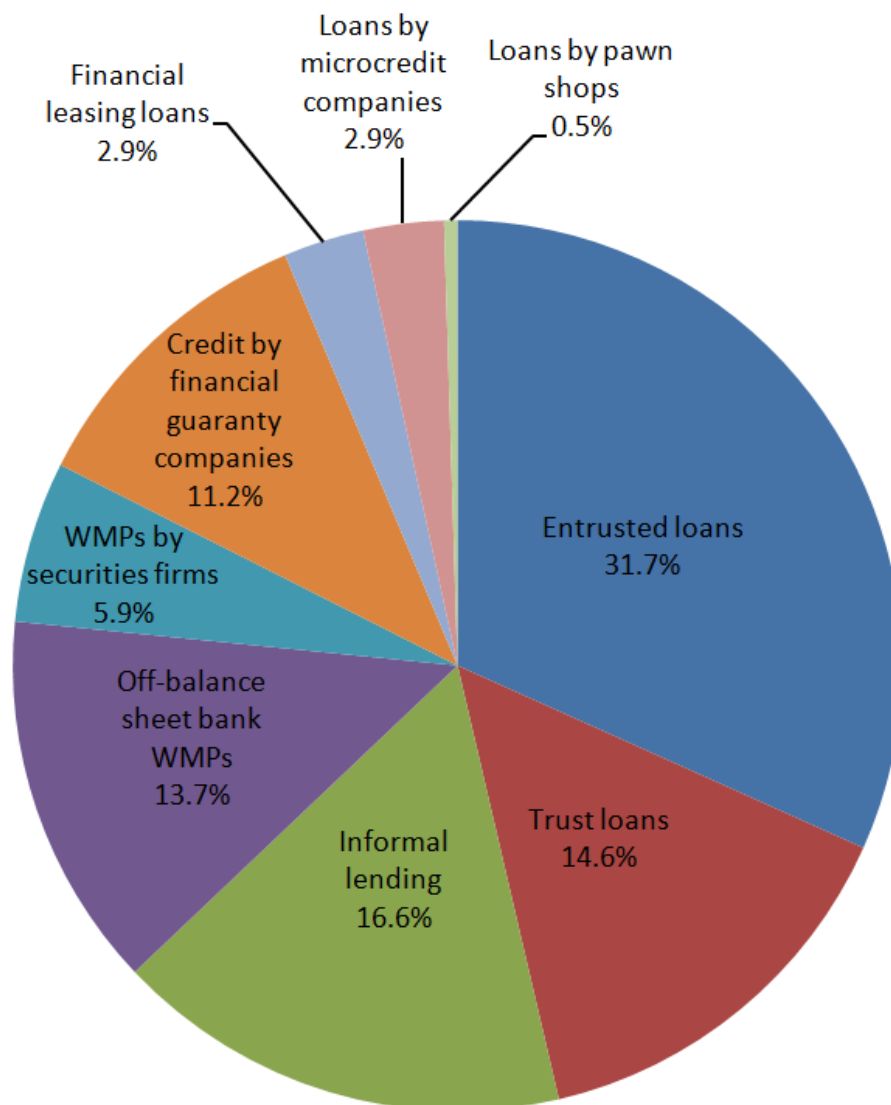
Panel A: Univariate analysis

	CAR [-1, +1] (%)	CAR [-3, +3] (%)	CAR [-5, +5] (%)
Affiliated loans (n=358)	0.16	0.34	0.47
A firm's first announcement (n=134)	0.47	0.87	1.36*
Subsequent announcements (n=224)	-0.02	0.02	-0.06
Difference	0.49	0.85	1.42
Non-affiliated loans (n=189)	-0.73**	-1.26**	-1.39*
A firm's first announcement (n=79)	-1.62***	-2.78***	-3.78***
Subsequent announcements (n=110)	-0.10	-0.17	0.33
Difference	-1.52**	-2.61***	-4.11***

Panel B: Regression

CAR [-5, +5] (%)	Non-affiliated loans		Affiliated loans	
	OLS	Heckman 2 nd stage	OLS	Heckman 2 nd stage
<i>A firm's first announcement</i>	-4.94*** (0.00)	-4.89*** (0.00)	1.62* (0.08)	1.51 (0.12)
<i>Ln (loan amount)</i>	-0.07 (0.94)	0.02 (0.98)	-0.44 (0.22)	-0.47 (0.21)
<i>Adjusted interest rate (%)</i>	-0.28 (0.16)	-0.27 (0.16)	0.22 (0.22)	0.21 (0.26)
<i>Maturity (Month)</i>	-0.05 (0.68)	-0.05 (0.68)	0.04 (0.25)	0.04 (0.25)
<i>Collateral or Guarantee</i>	-2.07 (0.42)	-2.00 (0.42)	-0.42 (0.68)	-0.50 (0.63)
<i>Inverse Mills Ratio</i>		0.62 (0.79)		-0.55 (0.75)
<i>Adj R2</i>	0.03		0.00	
<i>N</i>	189		353	
		<i>Heckman 1st stage</i>		
<i>Ln (loan amount)</i>		0.46*** (0.00)	0.19*** (0.00)	
<i>Ln (asset)</i>		-0.67*** (0.00)	-0.32*** (0.00)	
<i>ROA (%)</i>		-0.02** (0.05)	-0.003 (0.65)	
<i>Debt/asset (%)</i>		-0.001 (0.76)	0.002 (0.48)	
<i>SOE lender</i>		-0.03 (0.82)	-0.18** (0.03)	
<i>Wald chi2</i>		56.8	64.9	
<i>Sigma</i>		9.71	8.34	
<i>N</i>		587	2,373	

Figure 1. The relative size of various components of China’s shadow banking as of the end of 2012



Source: Moody’s Report (2013) Exhibit 1

Entrusted loans are loans made by a non-bank party (e.g., an industrial firm, or an entity sponsored by a local government, or a private equity fund) to another, using a bank as a servicing agent. *Informal lending* involves loans between private entities with no payment agents. *Trust loans* are loans made by trust companies. The trust companies in turn structure these loans into trust schemes or wealth management products and sell them to investors. *Wealth management products* (excluding entrusted or trust loans as underlying assets) are asset backed securities sold to investors. Underlying assets include bonds, interbank placements, and discounted bills. *Guaranty companies* provide a guarantee service to borrowers with poor credit profiles to support their bank/trust loans or wealth management issuances.

Figure 2. Geographical Distribution of Lending and Borrowing

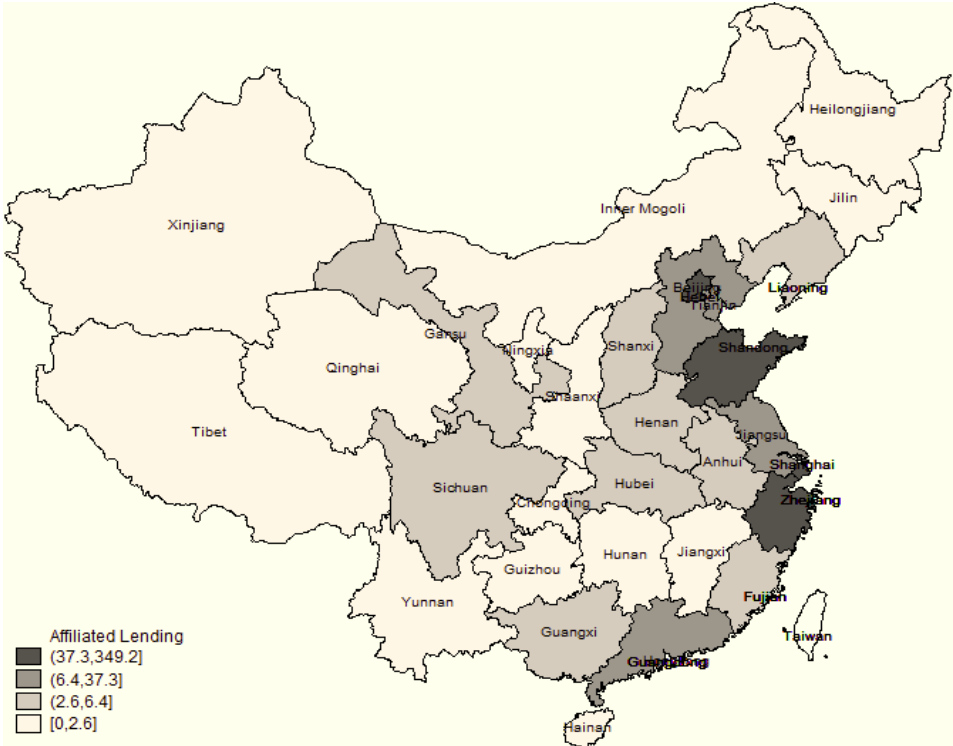


Figure 2.1 The map of affiliated lending

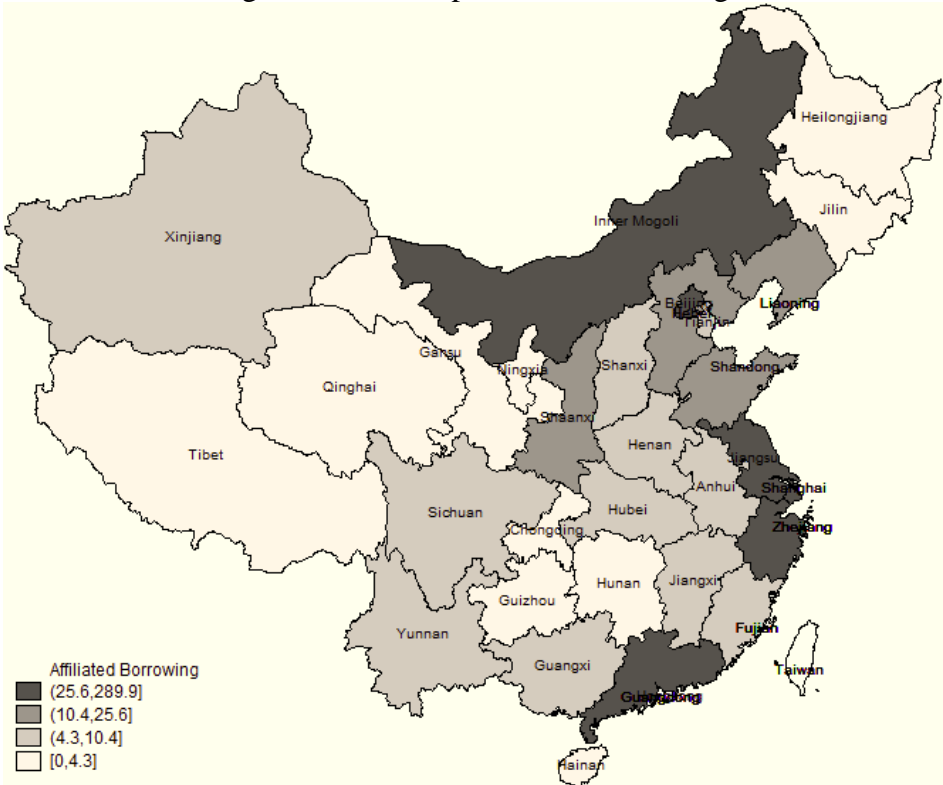


Figure 2.2 The map of affiliated borrowing



Figure 2.3 The map of non-affiliated lending

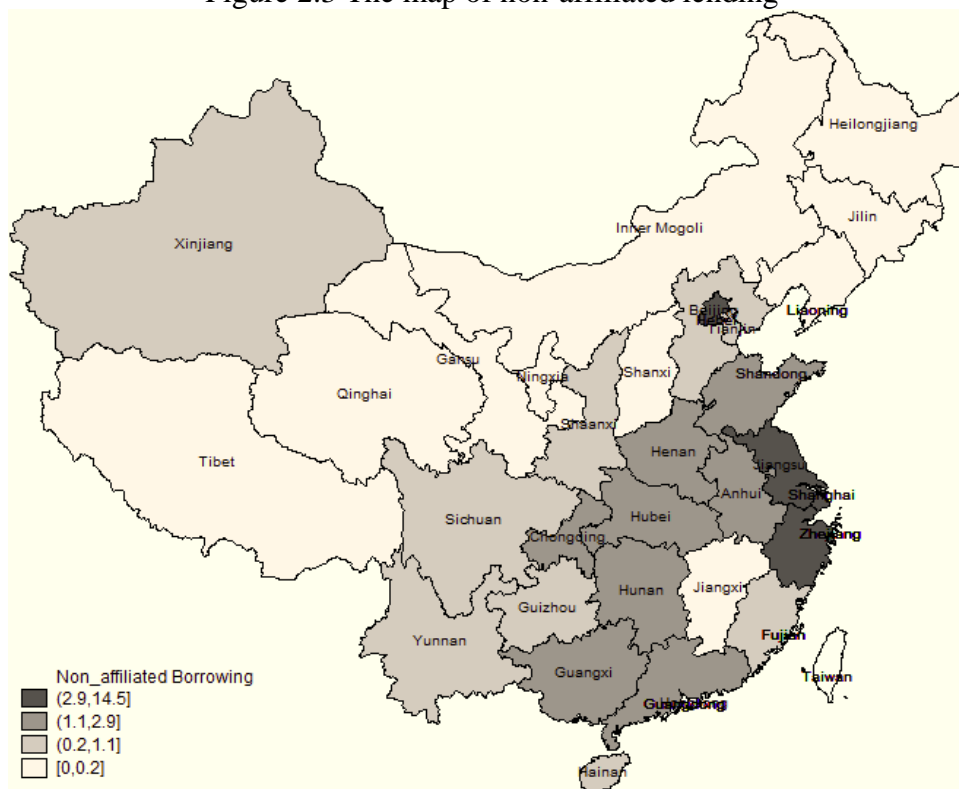


Figure 2.4 The map of non-affiliated borrowing