

Who Gains from Credit Granted between Firms?
Evidence from Inter-corporate Loan Announcements *Made in China*

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Abstract

Who gains from inter-corporate credit? To answer this question we measure the impact of the announcements of inter-corporate loans in China on the stock prices of the firms involved. We find that the average abnormal return for the issuers of inter-corporate loans is significantly negative, whereas it is positive for the receivers. We also find that there are notable differences between *intra*-group loans and *inter*-group loans. Loans issued to intra-group borrowers signal potential tunneling to the investors, while those issued to inter-group borrowers signal a lack of worthwhile projects to finance. Subsequent investment and firm performance confirms these immediate valuations as overall accurate. (77 words)

Key words: Inter-corporate loan, credit misallocation, certification, tunneling

JEL classification: G30, G140, G210

1. Introduction

Credit between firms plays a crucial role in many economies around the world (Almeida and Wolfenzon (2006)). Firms with limited access to intermediated funds rely heavily on financial inter-linkages with other firms (Gopalan, Nanda and Seru (2007)). This is particularly important in emerging economies, where the legal systems are weak. The absence of adequate legal enforcement makes it burdensome for firms to raise external financing (La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997)), which may lead to credit rationing of formal finance by financial institutions. Inter-corporate lending may be less subject to credit rationing and therefore may support the high growth in emerging economies like China (Allen, Qian and Qian (2005)).

Despite their ubiquity, research on inter-corporate credit continues to be hampered by a lack of direct firm-to-firm level data.¹ Thus, the inner workings of inter-corporate loans remain relatively unexplored. In this paper, we assemble a unique dataset to study the announcements of inter-corporate loans in the Chinese stock market during 2005-2012.² Indeed, as small- and medium-sized enterprises (SMEs) may face substantial obstacles in obtaining bank credit (Poncet, Steingress and Vandebussche (2010)), the Chinese government has allowed firms to obtain credit from other non-financial firms under the coordination of financial institutions. These inter-corporate loans, also called “entrusted loans”, are playing an increasingly important role in supplying credit to firms in China.³

¹ Garcia-Appendini and Montoriol-Garriga (2014) study U.S. firms’ liquidity positions and Boissay and Gropp (2014) study defaults on payments to suppliers in France. Jacobson and Von Schedvin (2015) and Ellingsen, Jacobson and von Schedvin (2016) study a dataset that contains 52 million trade credit contracts issued by 51 suppliers over 9 years to about 199,000 unique customers in Sweden. See also Petersen and Rajan (1997), Love, Preve and Sarria-Allende (2007), and Burkart, Ellingsen and Giannetti (2011), among others.

² Relying on similar data sources Allen, Qian, Tu and Yu (2016) examine the role played by inter-corporate loans in shadow banking, while Chen, Ren and Zha (2016) study monetary policy transmission and small bank risk-taking through the brokering of this lending.

³ According to the *China Securities Regulatory Commission* (CSRC), an entrusted loan is a type of loan in which the lender (i.e., the principal) extends credit to the borrower (i.e., the trustee) at specified amount, maturity, interest rate, and usage of the loan. Banks and other financial institutions only act as account managers who earn commissions but bear no default risk. Instead, the lending firm bears all the default risk. Entrusted loans amounted to 2.55 trillion RMB in 2013 (i.e., about \$400 billion) and accounted for 14.7 percent of the total amount of financing in the country. Data source: *People’s Bank of China*. The increase in entrusted loans in 2013 was equivalent to nearly 30 percent of bank loans, which almost doubled the portion of 2012. The *Wall Street Journal* featured reports on entrusted loans in China on December 8th, 2011, and May 1st, 2014.

The inter-corporate loans must be disclosed as a separate report of listed firms according to Chinese regulations.⁴ Comprehensive information disclosed in the inter-corporate loan announcements enables us to glean specifics on the lending behavior involved, i.e., the relationship between lender and borrower, maturity, interest rate and collateral, etc. In these announcements, we can identify whether the lender and borrower are affiliated with a *different* or the *same* business group. Thus we can compare the incentives and mechanisms present in intra-group loans and inter-group loans. To the best of our knowledge, there is no other published work that has studied this issue.

As with a business group, intra-group loans reallocate credit among member firms through internal capital market (Gopalan, Nanda and Seru (2007)). The intra-group lending can be motivated by either financial advantage (bright side) or tunneling (dark side). In the bright side, the internal capital market is efficient and can overcome the market frictions. For instance, an internal capital market can channel funds from firms with lower investment opportunities to others with higher investment opportunities Stein (1997); provide a supporting mechanism for a financially distressed subsidiary to avoid default (Gopalan, Nanda and Seru (2007); Khanna and Yafeh (2005)). More recently, internal capital markets in business groups can help mitigate the negative impact of financial crisis on firms' performance (Almeida, Kim and Kim (2015)).

“On the dark side”, intra-group loans may be used by corporate insiders to expropriate minority shareholders. A distortion in the internal capital markets could enable corporate insiders to extract private benefits of control (Scharfstein and Stein (2000); Fan, Jin and Zheng (2014)), or to engage in tunneling and expropriating corporate resources (Claessens, Djankov and Lang (2000); Johnson, La Porta, Lopez-de-Silanes and Shleifer (2000); Bertrand, Mehta and Mullainathan (2002)). In particular, Jiang, Lee and Yue (2010) document the tunneling through intra-group loans to controlling shareholders in China. Thus, the debate about the advantages versus disadvantages of intra-group lending still remains mixed in the literature (Almeida and Wolfenzon (2006); Buchuk, Larrain, Muñoz and Urzúa I. (2014)).

⁴ The CSRC requires all listed firms to announce major events which may influence their stock prices.

On the contrary, *Inter*-group lending, which in essence is a type of an alternative financing channel based on reputation and inter-firm relationships, may alleviate the credit rationing that exists in the formal financial sector.⁵ For example, one firm may have abundant cash, while the other may have promising investment opportunities in need of external financing. Inter-group lenders (e.g., suppliers) can often access insider information and have enforcement advantages over financial institutions, so inter-group loans could redistribute credit to more profitable firms in an efficient way.

In this paper we can directly observe the market reactions for both issuers and receivers of intra-group and inter-group loans, which can provide an immediate and comprehensive assessment for the valuation effects of these events (Palmrose, Richardson and Scholz (2004)). The information content of both types of loans depends on the incentives and efficiencies of the resource re-allocation across firms. The financial advantage hypothesis implies that an intra-group loan agreement is a type of fund flow within the internal capital market. Intra-group lenders often know more about the prospects of the borrowing firms than others such as banks, and thus can provide benefits in allocating capital more efficiently. Intra-group lending should add value to both the receiving firms and the business group as a whole through a value-enhancing credit re-allocation among firms. We should observe a positive market reaction to the announcements of intra-group loan to both receivers and the business group. In contrast, intra-group loan is an “expropriation device” in the tunneling literature, which allows corporate insiders to siphon corporate resource. The minority shareholders of lending firms suffer due to corporate insiders’ opportunistic behaviors, i.e., tunnel financial resources away or leave good projects unfunded (Buchuk, Larrain, Muñoz and Urzúa I. (2014)). Receiving firms benefit from the intra-group loans as they obtain credits in favorable terms from corporate insiders’ propping up.⁶ Intra-group lending doesn’t add value to the business group by moving resource efficiently across member firms (Bae, Cheon and Kang (2008)), which

⁵ In economies with underdeveloped legal and financial systems, credit provided by financial institutions may be rationed. Firms face substantial obstacles in accessing formal finance, which thus rely heavily on alternative financing channels based on reputation and relationship. The alternative financing channels have advantages in alleviating information asymmetry and also in enhancing contract enforcement even in the absence of official contracts, and therefore can support the high growth rates observed in an emerging economy like China (Allen, Qian and Qian (2005)).

⁶ Corporate insiders have incentives to engage in negative tunneling (propping up) for supporting affiliated trouble firms, while keeping the option to expropriate private benefits in good times (Friedman, Johnson and Mitton (2003)).

instead benefits the borrowing firms at the expense of minority shareholders of the lending firms. It suggests that investors should react positively in the receiving firms but negatively in the issuing firms. In terms of inter-group loans, as the tunneling and expropriation is a not major concern, the activities of inter-corporate lending is better explained by the efficiency of alternative financing channel. We should expect a positive market reaction to the announcement of receiving inter-group loans. As a result, the market reactions to inter-corporate loan announcements provide us a valuable benchmark to shed light on efficiencies of both intra-group loans and inter-group loans-in particular from a valuation perspective.

Using a sample of hand-collected inter-corporate loans announced between 2005 and 2012, we find that intra-group loan issuance agreements have larger loan amounts, lower interest rates, less collateral requirements and longer maturities than inter-group loan agreements. We also find that firms that receive intra-group loans have lower collateral requirements and are more likely to be controlled by the state, than firms that receive inter-group loans. There is no difference in investment opportunities between the providers and receivers of loan issuances or receipts.

We first document a statistically significant six-day (day -1 to day 4) cumulative abnormal return (CAR) of -84 basis points (bps) on the announcement of the issuance of intra-group loan, but an insignificant CAR of on the announcement of the receipt of intra-group loans. The issuance of inter-group loans generates a positive though insignificant six-day CAR, but it's still significant higher than the issuance of intra-group loans. We also find that the receipt of inter-group loan generates positive six-day CAR (i.e., 323 bps), and its magnitude is significantly larger than the receipt of intra-group loans (i.e. which is insignificant).

Our cross-sectional analysis shows that the market reaction is more pronounced for inter-group than intra-group loans (i.e. both the issuance and receipt), especially for firms with low separation of cash flow rights and control rights. Our result is broadly consistent with the tunneling and expropriation through intra-group loans. In contrast, inter-group loans are more likely to be driven by being an efficient alternative financing channel. Lenders of inter-group loans may have better private information and be less subject to social and political pressure to subsidize low-quality firms. Thus, receiving an inter-group loan in China may provide a type of

certification similar with the receipt of a bank loan in the U.S. (James (1987)).⁷ However, tunneling is still prevalent for the listed firms in the country (Jiang, Lee and Yue (2010)), which can hamper the efficiency of fund usage. As a result, the receipt of intra-group loans does not necessarily cut the attractiveness of receiving firms to the investors, while issuing intra-group loans leads to a value loss to minority shareholders of the lending firms and the whole business group at large due to potential tunneling and expropriation.

Our cross-sectional analysis also shows that the CARs for the issuance of inter-corporate loans are higher for loans issued by stated controlled firms, and also higher for loans issued to state controlled firms. State controlled lenders and borrowers are less susceptible to tunneling and expropriation of minority shareholders than private firms. In addition, CARs are higher for the issuance of inter-corporate loans with guarantee, which can mitigate the risks involved in the loans. Furthermore, CARs are lower for loans with a higher interest rate spread, which may indicate an excessive risk-taking and mispricing of loans by these non-financial corporate lenders. In contrast with Lummer and McConnell (1989), the revision of inter-corporate loans is associated with lower market reactions as the revision often indicate a financial distress (e.g. an extension of maturity when a borrower cannot repay the loan).

CARs are higher for the receipt of loans by firms with a higher profitability, which indicates a higher efficiency of fund usage by firms with better investment opportunities. In addition, CARs are higher for loan receipts with higher amounts. It is consistent with the literature that favorable credit agreements can convey proprietary information to uninformed investors, which leads to a certification effect similarly as traditional bank loans.

We also examine the consequence of intra- and inter- group loans on firms' ex-post performance, investment and related party transactions. We find that capital expenditure decreases significantly for firms that issue intra-group loans, while the

⁷ The positive announcement effects for the receipt of inter-group loans stands in pointed contrast to the findings in Bailey, Huang and Yang (2011) and Huang, Schwienbacher and Zhao (2012): They show that bank loan announcements in China result in negative abnormal returns for the borrowing firms. This may be due to banks' limited information and their well-known soft budget problem.

capital expenditure does not change significantly for firms that issued intra-group loans, and this difference is significant at the 5% level. It seems that the loans issued to the intra-group borrowers are not used to spur corporate investment, which may indicate potential tunneling and expropriation. Similarly, Due to the propping-up concerns for intra-group loans, the firms receiving these loans do not increase their investment (i.e., significantly lower capital expenditure for the receipt of intra-group than inter-group loans), which confirms the inefficiency of internal capital market in relocating credit within the business group.

The evidence also suggests that the ROA declines after the issuance of intra-group loans, while no significant change for issuance of inter-group loans. The potential tunneling and expropriation involved may lead to a lower profitability for these firms issuing intra-group loans. In addition, we find that the profitability does not change significantly after the receipt of intra-group loans, which also suggests an inefficient internal capital market for firms receiving these loans. These results are broadly consistent with the “propping up” hypothesis for the internal capital markets. Intra-group loans may enhance the valuation of the receiving firms, while endanger the valuation in the business group as a whole due to a resource misallocation through propping-up and increased tunneling and expropriation in the future. However, we do not find any significant increase of ROA for firms after the receipt of inter-group loans, which may be caused by a high interest burden for firms receiving these loans.

Our study contributes to the literature in the following ways. First, we break new ground in inter-corporate loan research by providing novel evidence on the reactions of the stock prices to inter-corporate loan announcements for both the issuing and the receiving firms (Palmrose, Richardson and Scholz (2004)). A unique contribution of our paper is that the announcements of inter-group loans enable us to measure who gains from credit re-allocation among corporations.

Second, our study also makes a contribution to the literature on the internal capital market. While there is a vast literature that study the financial advantage and tunneling aspects of business group (Stein (1997); Gopalan, Nanda and Seru (2007); Almeida, Kim and Kim (2015)), the wealth effect of credit reallocation among affiliated firms within business groups remains unexplored. A key distinction between

the two aspects is whether the benefit of minority shareholder is harmed by the opportunistic behaviors of corporate insiders (Buchuk, Larrain, Muñoz and Urzúa I. (2014)). Testing whether minority shareholders gains from intra-group lending is important to understand the inner working in the business group. We show that business groups use intra-group loans mostly for tunneling, as intra-group loans enhances the valuation of the receiving firms at the expense of minority shareholders of the lending firms and the business group as a whole.

Finally, our findings can also contributes to the literature on information production by non-financial firms as creditors besides banks and non-bank financial institutions and shed light on the operation of alternative financing channels (Best and Zhang (1993); Billett, Flannery and Garfinkel (1995); Allen, Qian and Qian (2005)). We show that the receipt of inter-corporate loans from unaffiliated firms (i.e., informal loans) is associated with a positive market reaction for the stock prices of receiving firms, particularly for firms with better investment opportunities. Uninformed investors may see these non-financial corporate lenders as more efficient in screening and monitoring the borrowers than traditional financial institutions. Receiving inter-group loans indicates a certification effect by these non-financial corporate lenders. As a result, the credit reallocation among unaffiliated firms corrects the market distortions to some extent in the absence of a well-developed legal and financial system.

The rest of this paper is organized as follows. Section 2 introduces the Chinese financial system. Section 3 sets out our hypotheses. Section 4 discusses the data and methodology. Section 5 provides summary statistics, determinants of loan issuance and receiving, and event studies of the issuance and receipt of inter-corporate loans. Section 6 links CARs to a set of loan, counter-party and firm-specific characteristics. Section 7 presents additional analyses on ex-post behaviors. Section 8 concludes.

2. Institutional background and main hypothesis

2.1 Inter-corporate loans in China

China is an emerging economy with an under-developed financial market with widespread state intervention and financial repression (Allen, Qian and Qian (2005)). The banking system in China is dominated by large state-owned banks, which are mandated to pursue social benefits and stability. Their credit allocation is often based on some “noisy” information about the borrowers and not based on commercial judgment (Bailey, Huang and Yang (2011)). Small and private firms have limited credit histories and collaterals, and will not receive government bailouts in case of defaults. Thus, banks favor lending to state-owned enterprises (SOEs) and large private firms, and discriminate against small and private firms in China (Firth, Lin and Wong (2008)). The capital market, which consists of a bond market and an equity market, is also relatively under-developed in China. The stock market does not play a proper role in the country, where insider trading and speculation are prevalent (Allen, Qian, Zhang and Zhao (2013); He and Rui (2016)). A majority of listed firms are still owned or controlled by the government nowadays. The Chinese government’s dual role as both regulators and shareholders undermines the role of the stock market in the resource allocation and risk diversification. With the formal banking sector and capital markets primarily serving the SOEs and large private firms, small and medium-sized enterprises (SMEs) face substantial obstacles in obtaining funds and thus often resort to alternative financing channels. Based on reputation and long-term relationship, alternative financial system can better screen and monitor the borrowers, and enforce loan repayment than banks and other financial institutions (Tsai (2002); Allen, Qian and Qian (2005)).

One type of alternative financing channel is the inter-corporate loan. Because direct lending activities among non-financial firms are prohibited in China before 2015, entrusted loans have moved in to facilitate the inter-corporate lending.⁸ Under

⁸ On March 8th, 1993, *People’s Bank of China* (PBOC) promulgated administrative decrees on entrusted loans as regards financial trust companies. On April 5th, 2001, the PBOC released a regulation on entrusted loans, “*Issues on Commercial Banks’ Provision for Launching Entrusted Loans*”. For an overview of the evolution of financial regulation of entrusted loans in China, see Appendix 1 for a survey of the laws and regulations relating to entrusted loans.

financial regulations in China, non-financial firms can extend credit to other firms via entrusted loans in a process that is coordinated by banks and other financial institutions (banks hereafter). Lenders and borrowers can negotiate loan terms subject to certain financial regulations regarding for example loan amount, interest rate, maturity, and purpose, etc.⁹ Banks merely act as agents on behalf of the lenders and coordinate the loan procedures, e.g., the contract signing, loan withdrawals, and repayment, etc. However, banks do not bear any default risk for the entrusted loans, which are often treated as off-balance sheet items by banks. Appendix 1 gives a timeline for the related laws and regulations on entrusted loans (for what we will henceforth call inter-corporate loans).

The Chinese financial authorities imposed only a mild set of regulations on inter-corporate loans because of their beneficial effect on credit reallocation. The market for inter-corporate loans has witnessed a rapid expansion with the gradual liberalization of interest rates in China, and it has recently become a key source of financing.¹⁰ The interest rate ceiling for inter-corporate loans was abolished by the *People's Bank of China* (PBOC) in October 2004, which enabled lenders to negotiate freely with borrowers on interest rates. Appendix 2 shows that the market share of inter-corporate loans has been growing rapidly, accounting for 15 percent of total financing in 2013 (the second largest financing source besides bank lending) and totaling 2.55 trillion RMB.

The rapid expansion of the inter-corporate loan business is a natural outcome of widespread financial repressions in China. On the one hand, there is favoritism toward SOEs and large private firms in accessing external finance. On the other hand, a substantial part of these firms are affiliated with a business group (Fisman and Wang

⁹ “*Lending General Provisions*” by the *People's Bank of China* were formulated in accord with the “*Law of the Commercial Banks*” and other relevant laws on August 1st, 1996. Article 7 states that entrusted loans should comply with the “*Lending General Provisions*”.

¹⁰ The interest rates are under extensive regulation by the *People's Bank of China* (PBOC). PBOC set the benchmark interest rate along with a rate floor and rate ceiling. The interest rate is only allowed to vary within specified bounds. For example, PBOC set the benchmark lending rates, and the interest rate of commercial loans, including entrusted loans, must be between the floor and ceiling around the benchmark lending rate. China began its interest rate liberalization in 1996 by abolishing the ceiling on interbank lending rates. From 1998 to 2004, the ceiling for the lending rates gradually raised, and was abolished in October 2004 (except for credit cooperatives), while the floor remained unchanged at 90% of the benchmark lending rate. Recently, China took a further step toward a market-oriented rate by removing the lending rate floor on July 19th, 2013.

(2010)), which can help them spin off bad assets and meet the IPO requirements by the *China Securities Regulatory Commission (CSRC)* (Fan, Jin and Zheng (2014)). These firms typically become much larger and more transparent after IPOs, and thus have a higher financial capacity and abundant credit, which can be channeled to unaffiliated SMEs in higher interest rates,¹¹ or reallocated to other member firms in need of liquidity within the same business group. Thus, firms in need of credit could employ the abundant credit of other firms to finance their investment opportunities. Furthermore, firms with abundant credit can receive substantial interest revenues through extending inter-corporate loans with high interest rates, which may even constitute their major sources for profit.¹²

If the Chinese economy stays in a booming period, the transactions of entrusted loans seem to be safe and benefit both the lenders and borrowers. Nevertheless, the rapid expansion of entrusted loans has generated substantial concern about the credit risks involved in light of the gloomy prospects for the Chinese economy since the global financial crisis.¹³ Although there is only a limited number of defaults on these loans up until now,¹⁴ the risks of inter-corporate lending can increase the systemic risks of the financial system as such credit often ends up in the real estate market and investment platforms of local municipal governments, which have become a major concern for the financial stability in China.

Despite its increasing importance in reallocating credit among corporations, little is known about the inner working mechanism of these inter-corporate loan agreements and their impacts on corporate valuations. Employing a unique setting of mandatory disclosure requirement for inter-corporate loans by the CSRC, we try to fill in this gap

¹¹ June 25th, 2013 (*Reuters*) - A deputy general manager in a state-owned steel firm says that the firm doesn't use the bank credit to expand production, as the average loss is 100 - 200 RMB per ton of steel sold. Entrusted loans are an attractive business option for his company. The firm borrows from banks at the benchmark lending rate (about six percent), and issues inter-corporate loans to borrowers at twice that rate.

¹² For example, the *Zhejiang Longsheng Group Co., Ltd*, a listed firm in *Shanghai Stock Exchange* (i.e. stock ID: 600352), says in its 2012 earnings report that it earns 93.4 million RMB from extending loans to other firms, which accounts for about half of its operating profits (189.2 million RMB).

¹³ May 2, 2014 (*Wall Street Journal*)-the *Zhejiang Longsheng Co. Ltd*, a listed firm in *Shanghai Stock Exchange* (i.e. stock ID: 600352) reports that the company has earned 21.9 million RMB from the lending to other companies in 2013 with interest rates ranging from 23% to 25%, which decreases by 77% from the level of 2012.

¹⁴ For example, the *Sunny Loan Top Co., Ltd*, a listed firm in *Shanghai Stock Exchange* (i.e. stock ID: 600830), on 7th Jun, 2014, reports 1.12 billion RMB entrusted loans outstanding at the end of 2013, among which 306 million is classified as doubtful and 5 million is classified as losses.

by examining the market reactions to the announcements of issuance and receipt of inter-corporate loans, and their associated consequences on the corporate investment and performance.

2.2 Main hypotheses

To compare the incentives and mechanisms present in intra-group loans and inter-group loans, we examine the market reactions toward these loan announcement, and their consequence of investment, performance and the related party transactions of both issuing and receiving firms.

Inter-group loans might be a remedy for under-developed standard financial market in emerging market economies (Allen, Qian and Qian (2005); He and Rui (2016)). Inter-group loans usually occur among firms with certain business relationships, e.g., customers, suppliers, or firms in the same industry, etc. Thus, the lending firms of inter-group loans may have an informational advantage over banks in screening and monitoring the borrowers.¹⁵ Furthermore, lenders may suffer a substantial loss in case of loan defaults, which incentivizes lending firms to acquire proprietary information about the borrowers *ex ante*, e.g., through long-term business relationship, supplier-customer relationship, or personal relationship with the CEOs, etc. As a result, obtaining an inter-group loan resembles traditional bank loans in industrial countries, which certifies the borrowers and conveys positive information to uninformed investors.¹⁶ We then expect positive excess returns on the stock of these receiving firms. A typical non-financial firm should mainly engage in the production of goods and non-financial services. Thus, the announcement of inter-group loans may signal to uninformed investors that the issuing firms have run out of worthwhile projects to finance, even though the inter-group loans indeed improve the credit

¹⁵ Institutional lenders, such as banks, can enhance firm valuation by alleviating the information asymmetry of borrowers (Fama (1985); Boot (2000); Ongena and Smith (2000)). Approval of a bank loan is often perceived by uninformed investors as a good signal, especially for borrowers who suffer from severe information asymmetries. The positive excess returns on borrowers' stocks following bank loan announcements are widely documented in the literature (James (1987), Mikkelsen and Partch (1986). James and Smith (2000) and Degryse, Kim and Ongena (2009), Ongena and Roscovan (2013)).

¹⁶ A well-functioning informal financing system may fill in the gap due to their advantages in screening, monitoring, and enforcement versus traditional banks (Stiglitz (1990); Arnott and Stiglitz (1991)).

allocation in the issuing firms as in Hoff and Stiglitz (1997) and Bose (1998).¹⁷ We expect negative market reactions to issuing firms. As inter-group loans relocate credits from low-productivity to high-productivity firms, we should also expect an increase (decrease) in investment as well as relative performance for receivers (issuers).

Intra-group loans differ from inter-group loans in that loans are made between affiliated firms in business group. The literature has addressed two motivations for intra-group loans: financial advantage and tunneling. Financial advantage view argues that, in countries with under-developed legal and financial systems, firms are often affiliated with business groups to overcome financial constraints in raising external finance (Claessens, Fan and Lang (2006); Bae and Vidhan (2009)). Firms with good investment opportunities can obtain credit through the internal capital markets when the headquarters of the business group can allocate credit at best use among group firms (Stein (1997)). Indeed, Buchuk, Larrain, Muñoz and Urzúa I. (2014) find that intra-group loans in Chile actually enhance firm investment and performance. Furthermore, Almeida, Kim and Kim (2015) show that internal capital markets of Korea business groups mitigate the negative effects on investment and performance during the Asian financial crisis. These studies suggest that intra-group loan is a tool of value-enhancing credit reallocation, and increases the value of both receiving firms and business group. Therefore, the financial advantage view predicts that the announcements for intra-group loans will lead to significantly positive excess returns on the stocks of the receiving firms and firms issuing intra-group loans to their subsidiaries. In particular, financial advantage view suggests that funds are relocated to firms for which the gap between financing capacity and desired investment is greatest (Almeida, Kim and Kim (2015)). Intra-group loan receivers are expected to realize higher announcement returns than inter-group loan receivers. The average increase in investment and performance of intra-group loan receivers should be larger than that of comparable inter-group loan receivers.

The tunneling view predicts the opposite. The tunneling view emphasizes the agency cost between controlling shareholders and minority shareholders. In emerging economies with weak investor protections, ownership is often concentrated in

¹⁷ Similarly, Yook (2003) show that the acquirers' stock prices suffer from negative market reactions to M&A announcements, which may indicate that the acquirers have run out of other worthwhile projects to finance.

business groups, and voting rights exceed cash flow rights through pyramid structures and cross-holdings by controlling shareholders (Claessens, Djankov and Lang (2000)). Thus, a majority of decision rights are often in the hands of corporate insiders, which may enable them to tunnel corporate resources for private benefits (Johnson, La Porta, Lopez-de-Silanes and Shleifer (2000)). An extensive literature has identified tunneling activities of business groups in emerging market economies with inadequate legal protections for investors, e.g. mergers and acquisitions (Bae, Kang and Kim (2002)); private placements of equity (Baek, Kang and Lee (2006)) and equity offerings (Atanasov, Black, Ciccotello and Gyoshev (2010)). Therefore, the intra-group loan might be an “expropriation device”, facilitating controlling shareholders to transfer financial resources from issuer to receivers. The minority shareholders of the lending firms and the whole business group are harmed by the abuse of controlling shareholders, as better projects are left without funded. We would then expect positive announcement returns to receiving firms, while negative market returns on the stock of issuing firms, in particular for those loans extended to their subsidiaries. The tunneling view suggests that issuers of intra-group loans should suffer a larger wealth loss and profit deterioration than those of inter-group loans. Thus, the related party transactions should increase after the issuance and receipt of intra-group loans.

3. Data and variables

Our sample consists of non-financial firms traded on the Chinese stock market (both *Shanghai* and *Shenzhen Stock Exchange*). We firstly identify a sample of 1,024 announcements of inter-corporate loans during 2005-2012 from *Resset* (www.resset.cn), which is a widely used database for the Chinese stock market (Calomiris, Fisman and Wang (2010)). The CSRC requires all listed firms to announce major events which may influence their stock prices.¹⁸ We then crosscheck

¹⁸ According to Article 67 of Chapter 3 of the *Securities Law of China* (effective as of Oct 27, 2005), the term “major event” means: (1) A major change in the company’s business guidelines or scope of business; (2) A decision made by the company concerning a major investment or major asset purchase; (3) Conclusion by the company of an important contract which may have an important effect on the company’s assets, liabilities, rights, interests or business results; (4) Incurrence by the company of a major debt or default on an overdue major debt; (5) Incurrence by the company of a major deficit or incurrence of a major loss; (6) A major change in the external conditions of the company’s production or business; (7) A change in the board of directors, no less than one-third of directors,

the announcements with the official documents of corporate announcements published on the websites designated by the CSRC,¹⁹ and the websites of the *Shanghai* and *Shenzhen* Stock Exchanges. Thus, we identify another 249 announcements of inter-corporate loans. So we reach a sample of 1,273 announcements of inter-corporate loans. Appendix 3 shows an example of an inter-corporate loan announcement record (translated by the authors).

We exclude all observations that coincide with other confounding corporate events (i.e., release of annual reports, announcement of seasonal offerings, dividend, law suits, etc.) within the [-1, 4] trading day window around the announcements date of an inter-corporate loan. We obtain a sample of 703 unaffected announcements of issuance and receipt of inter-corporate loans. Appendix 4 tabulates the total volume of inter-corporate loans by all listed firms on *Shanghai Stock Exchange*, which shows that our sample covers a quarter of the total volume of inter-corporate loans.

We record the announcement date, loan type (i.e., issuance / receipt), existing relationship between lender and borrower (i.e., inter-group and intra-group, where the latter is further broken down into controlling shareholders, subsidiaries, and firms with other relationships, e.g., firms affiliated with the same business group but without equity ownership of each other), and ownership of the counter-party. In addition, we also record whether an inter-corporate loan is a new loan (issuance/receipt) or a loan revision. A new loan indicates that the borrower and lender do not have a prior inter-corporate loan between them, while a loan revision means there is an existing loan. The announcement files for inter-corporate loans enable us to identify loan terms such as the loan amount, interest rate, maturity, and collateral, and also the name of the financial institution involved, among other characteristics.

supervisors or managers of the company; (8) A considerable change in the holdings of shareholders who hold no less than five percent of the company's shares; (9) A decision made by the company to reduce its capital, to merge, to divide, to dissolve, or to apply for bankruptcy; (10) Major litigation involving the company, or lawful cancellation by a court of a resolution adopted by the shareholders' general meeting or the board of directors; (11) Criminal cases involving the company, and the arrest of board of directors, supervisors or senior management staff; (12) Other events specified by the *China Securities Regulatory Commission*.

¹⁹ The official designated websites for corporate disclosures are www.cninfo.com.cn and www.cnstock.com.

The inter-corporate loan announcements are matched with stock prices and a set of firm characteristics at the fiscal year-end before the announcement year. We collect financial information for non-listed firms from the announcement files of inter-corporate loans, and also from the survey of industrial firms by the *National Bureau of Statistics of China*.²⁰ As a result, we can compile a set of firm characteristics which may be associated with the CARs on announcements of inter-corporate loans.

We include loan variables in the regression (loan size, interest rate spread, maturity, guarantee, and loan revision), as well as counter-party variables (intra- and inter-group counter-party, counter-party industry, counter-party size, and state-owned counter-party). In addition, we include a set of firm variables: Size, age, ROA, cash holding, leverage, state control, and the separation of cash flow and control rights.²¹ Finally, we include industry and year fixed effects in the regression. Variable definitions are listed in Table 1.

[Table 1 here]

4. Results

4.1 Summary statistics

We focus on 2005-2012 as our sample covers all announcements of inter-corporate loans in that period.²² Panel A of Table 2 shows the distribution of 703 “clean” announcements by type and year. There are more announcements of issuances

²⁰ We use the dataset for industrial firms in China, which include all state-owned enterprises (SOEs) and all non-state owned firms with annual sales revenues above five million RMB, from 1998-2009.

²¹ *Accounting Standard for Business Enterprises of China* (CAS) formulates the basic and specific standards for accounting information of financial reports. CAS, however, doesn't specify the accounting method for the book-keeping of entrusted loans. Entrusted loans can be reported in accounting entries of *other accounting receivables*, *other liquid assets*, *held-to-maturity investment* or *disbursement of loans and advances* in a firm's balance sheet. The interest revenues from issuing entrusted loans is reported in accounting entries of *interest income*, *other business income*, *investment income* or *financial costs* in a firm's income statement. For example, the 2009 annual report of the *Sunny Loan Top* (stock ID: 600830) discloses the firm's entrusted loans outstanding in the accounting entry of *disbursement of loans and advances*, while the revenue of entrusted loans appears in *interest income*. The 2011 annual report of *China Coal Energy Company Ltd* (stock ID: 601898) discloses the firm's entrusted loans in *other accounts receivables*, while it doesn't report the revenue from entrusted loans.

²² The inter-corporate loan is usually involved in deals that publicly listed firms provide (receive) loans from private firms. As we do not observe their balance sheets, private firms are not counted in these statistics.

than of receipts. A total of 559 announcements were made on the issuance of inter-corporate loans and 144 announcements on their receipts. A majority of the announced inter-corporate loans are intra-group loans, on both issuance and receipts. The number of announcements is 393 (128) versus 166 (16) for the issuance (receipt) of intra-group versus inter-group loans. The number of announcements increases over the years, with a slight decrease in 2012.

[Table 2 here]

Panel B of Table 2 shows the frequency distribution of inter-corporate loan announcements by industry. A majority of the inter-corporate loans are in the manufacturing industry. The industry distribution of the intra-group loans differs substantially from that of the inter-group loans. The utilities industry (the wholesale and retail trade industry) ranks second in the number of issuance announcements of intra-group loans (inter-group loans). The real estate industry ranks first for receipt announcements of inter-group loans, whereas ranks second for receipt announcements of intra-group loans.

Table 3 examine whether the characteristics of issuers (receivers) involved in intra-group loans are different from those of inter-group loans. Panel A shows that, of the 393 intra-group loan issuances, 365 are loans to the subsidiaries of listed firms, 6 are loans to the controlling shareholders and 22 are loans to firms with other relationships. It suggests that most issuances of intra-group loans go to the subsidiaries of listed firms. The comparison of the characteristics of inter-corporate loans for issuance versus receipts (Columns A and E) shows that loan sizes are significantly larger for intra-group loans than for inter-group loans. The mean maturity is about 18 months for the intra-group loans and 12 months for inter-group loans. We also find that on average, the spread (i.e. the interest premium over the basis lending rate) and proportion of guarantee are 0.14 and 0.11 for intra-group loans, lower than these for inter-group loans (1.16 and 0.61). It suggests that loans that involved in the same business group tend to carry more favorable credit agreements than inter-group loans.

Issuers in intra-group loans tend to be larger in firm size, state owned, have higher leverage ratio than issuers in inter-group loans. Consistent with tunneling

hypothesis, issuers have a larger separation between control rights and cash flow rights in intra-group loan than in inter-group loan. These characteristics suggest that issuers in intra-group loans are more financially constrained, however, still extend more favorable credits to their subsidiaries, which may benefit the controlling shareholders through tunneling and expropriation.

Panel B shows that, of the 128 intra-group loan recipients, 94 are loans from the controlling shareholders, 8 are loans from the subsidiaries of listed firms, and 26 are loans from firms with other relationships. As there is only 16 recipients of inter-group loans, there are no significant difference between the characteristics of inter-corporate loans for issuance versus receipts (Columns A and E). However, we still find that intra-group loans carry more favorable terms than inter-group loans (i.e. lower guarantee requirements).

[Table 3 here]

4.2 Determinants of issuing and receiving inter-corporate loans

In order to identify factors that may affect the likelihood of issuing or receiving inter-corporate loans, we use the size-based matching method in Beasley (1996) and Bailey, Huang and Yang (2011). It allows us to identify a group of control firms with similar size and same industry. The dependent variable equals 1 for each firm-year in our sample, and 0 for a matching sample constructed for each firm-year from all firms that do not have any record on issuing or receiving inter-corporate loans in the sample period. Specifically, for each firm-year in our loan announcement sample, we identify all other firms from the same industry and choose the one with the closest value of total assets, as long as it is within the ten percent band of the sample firms' total assets. We then pool these matched firms with our sample firms, and run a regression of the likelihood of issuing or receiving intra-and inter-group loans on a set of firm characteristics.

We run multinomial logit model in Table 4. Columns (1)-(3) of Table 4 show that firms with larger separation of cash flow and control rights are more likely to issue intra-group loans, while it does not matter for the issuance of inter-group loans. It

suggests the potential tunneling and expropriation in the intra-group loans. In addition, firms with a higher ROA are less likely to issue inter-group loans, while this ratio does not matter for the issuance of intra-group loans. It shows that firms with better investment opportunities are likely to relocate the fund away from the firm. Furthermore, firms with higher leverage are less likely to issue inter-group loans, while it does not matter for the issuance of intra-group loans, which suggests the role of credit constraints on the fund relocation. Besides, firms with more cash holding are more likely to issue intra-group loans, while it does not matter for inter-group loans. And, state-controlled firms are less likely to issue inter-group loans, while it does not matter for intra-group loans, which suggests a potential credit misallocation by the state-owned enterprises.

[Table 4 here]

Columns (4)-(6) of Table 4 show that firms with a larger separation of cash flow and control rights are more likely to receive intra-group loans, while it does not matter for inter-group loans, which also reflects the tunneling and expropriation. Also, firms with higher ROA are more likely to receive inter-group loans, while it does not matter for the intra-group loans, which shows the relative efficiency of inter-group loans. Firms with more cash holding are less likely to receive intra-group loans, while it does not matter for the inter-group loans. In addition, firms with higher leverage are more likely to receive inter-group loans, but it does not matter for intra-group loans, which also that credit constrained matters in seeking inter-group loans. Furthermore, state-controlled firms are less likely to receive loans in general due to their privileged access to credit.

4.3 Market reactions to the issuance of inter-corporate loans

A standard market model (as in Thompson (1985)) is used to estimate the benchmark returns and then to calculate the abnormal returns. In order to measure market returns, we use the equally-weighted market return for the Chinese stock market (A-shares) from the *China Stock Market and Accounting Research* (CSMAR) database. We define the announcement date as the event date (i.e., “day 0”). For each “clean” announcement of entrusted loans, we run a daily market model for the firms

over the estimation window of [-250, -21], and calculate abnormal returns in the event windows accordingly.

Since December 16, 1996, the Chinese government has imposed restrictions on the ceiling and floor of the daily stock price. Based on previous trading day's closing price, the ceiling and floor for the stock prices are set at ten percent for all stocks and five percent for stocks that are labeled as *special treatment* ("ST") status.²³ The stock price may continue to react after the announcement day. In addition, some loan announcements have become known before the official announcement days. Thus, we focus on CAR[-1,4] an informative measure to capture a full market reaction following, e.g., Bailey, Huang and Yang (2011). We also report results for various event windows (e.g., CAR[-1,+1]) to check the robustness of our findings. As multiple inter-corporate loan issuances may be announced on a single day, we aggregating loan transactions of a given firm that announced on the same event day.

Intuitively, the lower panel of Appendix 5 shows a substantial jump upward in the average abnormal return on the event day of the receipt of inter-corporate loans. The upper panel of Appendix 5 shows the average abnormal returns for the issuance of inter-corporate loans in the [-20, 20] window, which exhibits a substantial drop in the average abnormal return on the event day.

Panel A of Table 5 shows the abnormal returns on the issuance of inter-corporate loans. For all reported windows, cumulative abnormal returns are negative and statistically significantly at conventional confidence levels. For example, the average CAR[-1,1] and CAR[-1,4] are -0.39 percent and -0.40, statistically significant at the one percent level in a Student's t-test. These results suggest that the announcement of inter-corporate loan issuance leads to a decrease of 0.4% in the borrower's market value.

²³ According to CSRC, a company can be downgraded to ST status if: (1) The firm records a net loss in two consecutive fiscal years; (2) The company is found to have committed financial fraud and, after taking remedial action, records a net loss in two consecutive fiscal years; (3) The company is found to have committed financial fraud, the company has failed to take remedial action within a specified period after being urged by the CSRC to do so, and the company has been temporarily delisted for two months; (4) The company has failed to issue its annual report or semi-annual report on the designated date and has been temporarily delisted for two months. Any company that fails to take steps to improve its situation after being designated ST will ultimately be delisted from the stock exchange.

[Table 5 here]

Classifying the loans into intra-group loans and inter-group loans, we find that the significance of negative mean CAR[-1,1] and CAR[-1,4] is primarily due to the issuers in intra-group loans. CARs for issuers in the inter-group loans are statistically insignificant different from zero. These may suggest that the issuance of loans to unrelated corporations indicates a lack of worthwhile projects in the issuing firm, even though credits may be reallocated to more efficient firms. Furthermore, the mean CAR[-1,4] for intra-group loans are significantly lower than that of the inter-group loans. (-0.84% vs 0.63%). These results suggest that tunneling and expropriation could be a major concern behind the business group's financing activities.

We also show the CARs separated into issuance of intra-group loans to controlling shareholders, subsidiaries, and borrowers with other relationships. the issuance of intra-group loans to subsidiaries constitutes a majority of the sample, while the set of loans issued to controlling shareholders contains only six observations due to government sanctions since 2006. Consistent with the tunneling of intra-group loans to controlling shareholders in Jiang, Lee and Yue (2010), the CAR[-1,0] equals -1.69 percent and significant at the ten percent level even though only with six observations. In addition, CAR[-1,4] is -0.82 percent for the issuance of intra-group loans to subsidiaries, which is significant at the one percent level. We do not find any significant CARs for the issuance of intra-group loans to borrowers with other relationships.

Panel B of Table 5 shows the CARs for the receipt of inter-corporate loans. CAR[-1,4] is 0.61% on average though significant, while CAR[-1,1] is 0.57% on average and significant at the ten percent level. It indicates that the effect of receiving inter-corporate loans is an increase of 0.6% in the value of borrowing firms.

Classifying the loans into intra-group loans and inter-group loans, we find that CARs for inter-group loans are mainly positive and statistically significant at the conventional levels, while insignificant for intra-group loans. The insignificant CARs of the receipts of intra-group loans from controlling shareholders also suggest corporate propping-up activities, which may not benefit the minority shareholders of the loan receiving firms. Furthermore, the mean CARs for inter-group loans are larger

than those of the intra-group loans and significant at conventional levels. For example, CAR[-1,4] for inter-group loans are significantly larger than those of the intragroup loans (3.23% vs 0.29%). These results are generally consistent with the financial advantage hypothesis for the inter-group loans.

We also tabulate the receipts of intra-group loans by those from controlling shareholders, subsidiaries, and lenders with other relationships. It shows that intra-group loans from controlling shareholders constitute a majority of the sample. The CAR[-1,4] is 0.32 percent on average for the receipt of intra-group loans from controlling shareholders though significant in a t-test.

We further analyze whether the CARs are different across the firm and loan characteristics. Table 6 link the CARs with loan, counter-party, and loan announcing firm characteristics. Following Bailey, Huang and Yang (2011), We focus on the CARs over a 6-day window (CAR[-1, 4]) hereafter.

[Table 6 here]

Firstly, we include loan variables, i.e., loan size, spread of the interest rate over basis lending rate, maturity, guarantee status (whether a loan is collateralized or guaranteed by third-parties), loan revision (whether a loan announcement relates to a revision of loan terms such as extension of maturities). We also include a set of counter-party variables, i.e., intra-group versus inter-group loans, whether the counter-party and the listed firm are in the same industry, counter-party size, and whether the counter-party is state-owned, etc. Finally, we include a set of loan announcing firm characteristics, i.e., firm size, age, ROA, cash holding, leverage, state control, and separation.

5. Cross-Sectional regression

Table 7 shows the regressions of CAR[-1,4] for the issuance and receipt of inter-corporate loans on the loan, counter-party and firm characteristics. Models (1) to (4) give the estimates for the issuance, and Models (5) to (8) for the receipt of inter-corporate loans. Model (1) of Table 7 shows that the CARs are higher for the issuance of inter-group loans. Model (2) shows that the marginal effect of inter-group

loans are lower if there is a higher separation of cash flow and control rights, which may be due to the tunneling and expropriation. Firms with larger size, higher profitability, and state controlled firms are associated with higher CARs as these firms have better access to finance thus more abundant fund to relocate to other firms. Model (3) shows that state owned counter-party is associated with higher CARs due to less credit risk involved in these loans (e.g. implicit government guarantee). Model (3) of Table 7 also shows that more mature firms in the stock market generate higher CARs on the issuance of inter-corporate loans, as uninformed investors may already know their low growth potential. Finally, model (4) shows that the CARs are higher for loans with guarantee due to lower credit risk, and lower for loans with revisions which often involves delayed payments.

[Table 7 here]

Table 7 shows the regression results for CARs on the receipt of inter-corporate loans on loan variables. Models (5) and (6) show that the CARs are higher for inter-group loans, while this effect is mitigated with a higher separation of cash flow and control rights. In addition, the CARs are higher for the borrowers with higher ROA, which suggests a more efficient use of the loans by the borrowing firms. State-controlled borrowers are associated with higher CARs in Model (7), which is significant at the five percent level. State controlled firms are often worse in terms of performance, and inter-corporate loans may have a larger certification effect for such borrowing firms. Finally, larger loans are associated higher CARs, which generally reflects a better certification of more favorable loan terms. Our results are generally consistent with the bank loan announcement literature in that certification is more effective for poorly performing borrowers (Fields, Fraser, Berry and Byers (2006)).

In sum, we find that the CARs on issuance and receipt of inter-corporate loans are associated with various loan, counter-party, and (loan-announcing) firm variables. On the one hand, the issuance of inter-corporate loans generates higher CARs for inter-group loans while this effect is mitigated by the separation of cash flow and control rights. Also, the issuances of loans with lower interest rate spreads and without revisions, with state controlled lending firms, and with guarantee are associated with higher CARs. On the other hand, the receipt of inter-corporate loans generates higher CARs for inter-group loans while this effect is also mitigated by the

separation of cash flow and control rights. In addition, the receipt of loans by the borrowing firms with higher ROA, state control, and larger loans are associated with higher CARs. The results support the hypothesis that the issuance of inter-group loans signals to uninformed investors a lack of worthwhile projects to finance in the issuing firms, while the issuance of intra-group loans reflects potential tunneling and expropriation.

6. Corporate behavior in the long-run

Our event study results support the tunneling hypothesis of intra-group loan, while they do not directly refute the financial advantage hypothesis. To provide a more direct test, we examine whether intra-group loan is associated with the investment, performance and related party transaction in the long-run.

We examine the economic consequence (changes in investment, performance and related party transactions) of inter-corporate loans for both issuing and receiving firms as it reflects how the credit is allocated across firms *ex post*. On the one hand, if the positive market reaction to the receipt of inter-group loans indicates a certification, this capital relocation can alleviate financial restrictions and enable the receiving firms to invest more than the issuing firms. On the other hand, the issuance of intra-group loans conveys additional information about the inefficient internal capital market in terms of tunneling and propping-up. The investment of the receiving firms *ex post* the intra-group loans should be irreverent with their investment opportunities.

We explore the changes of capital expenditures scaled by the total assets in the years around the loan announcements for both the issuing and receiving firms. Table 8 shows the changes of capital expenditures in the years around the issuance of inter-corporate loans scaled by the total asset in the year before the loan announcements. We find that the capital expenditure decreases for the firms issuing intra-group loans, while no significant changes for the firms issuing inter-group loans. In particular, the difference between firms issuing intra-group loans with inter-group loans is significant at the five percent level. We find similar results for the firms

receiving intra-group loans, though the difference between intra- and inter-group loans is not significant. The intra-group loans, however, may be used as a channel for corporate propping up and tunneling, which endangers the investment behaviors of the issuers and receivers of intra-group loans.

[Table 8 here]

The changes in the performance *ex post* the inter-corporate loans can also cast light on their long-term wealth effect. We examine firms' accounting performance after the inter-corporate loan announcements. If the issuance of inter-corporate loans reveals credit misallocation in the issuing firms (i.e., inter-group loan) or tunneling (i.e., intra-group loan), we would expect the accounting performance to turn worse *ex post* for firms issuing both types of loans. In contrast, if the receipt of inter-corporate loans provides certification for the receiving firms (inter-group loan) or corporate propping-up and tunneling (intra-group loan, i.e. less financial burdens), we would expect a higher accounting performance *ex post* for the inter-group loans but not for the intra-group loans. Table 8 shows the return on assets (ROA) in the years before and after inter-corporate loan announcements. We find that ROA decreases significantly from one year before and after inter-group loan announcements for firms issuing intra-group loans, but not for firms issuing inter-group loans. A t-test between the two groups of firms shows that ROA decreases more for firms issuing intra-group than inter-group loans. Issuance of intra-group loans can involve tunneling and corporate propping up, which can lead to a deterioration of accounting performance. Firms issuing inter-group loans, however, can benefit from the high interest revenue of the inter-group loans, even though they face worse investment opportunities.

We find that ROA does not change significantly for firms receiving intra- or inter-group loans. Firms receiving intra-group loans may engage tunneling and propping up, which can offset the benefit of the loans. Firms receiving inter-group loans, however, face higher financial burdens, which can also offset the certification effect of the loans.

To gain additional insight of implication of inter-corporate loans on the tunneling and expropriation, we examine how related party transactions (*RPT*), including related party sales (*RPT_Sales*) and related party lending (*RPT_Lending*)

change with the loan issuance or receipt. We define *RPT_Sales* as sales revenue of products and services to related parties scaled by total sales revenue and *RPT_Lending* as net lending to related parties scaled by total sales revenue. The data is extracted from CSMAR. Based on the raw data, all the related party transactions are classified into 17 categories: transaction of goods and products, transactions of assets, transaction of services, delegation or agency in production, delegation or agency in management, rent, grant or donation, asset exchange, equity replacement, corporation, license agreement, R&D, senior manager compensation, transaction on debt and credit (debt payment on behalf of the related party or debt re-construction), monetary transaction, loan guarantee and others. We classify all RPTs related to bank loans, loan guarantees or monetary transactions into *RPT_Lending* and leave all the other RPTs into *RPT_Sales*. We further restrict our analysis to transactions with parent company, subsidiary, jointed company or consortium, omitting transactions affiliated by other relations such as family connections to controlling shareholder or senior managers.

Without expropriation or tunneling, firms will make some RPT according to normal operation needs. To tease out the abnormal RPT from the normal ones, we run two regressions on *RPT_Sales* or *RPT_Lending* year by year from 2006 to 2012 following Jiang, Lee and Yue (2010). To make the regression estimations more robust, the annual regression is run on all A-share firms instead of firms which issue or receive inter-corporate loans.

$$\begin{aligned}
 &RPT_Sales_{it}/Sales_{it} \text{ or } RPT_Lending_{it}/Sales_{it} \\
 &= \alpha_0 + \alpha_1 Size_{it} + \alpha_2 TobinQ_{it} + \alpha_3 Lev_Total_{it} + \alpha_4 Industry_{it} + \varepsilon_{it}
 \end{aligned}$$

Size is natural log of total assets, *TobinQ* is the ratio of market value to book value, Leverage is the ratio of total debt to total assets. We also control for two-digit CSRC industry fixed effects. The residuals obtained from the above regressions are used to proxy for abnormal related party sales or related party lending in later

analyses. We aggregate the *RPT_Sales* or *RPT_Lending* to obtain a measure for the related party transaction.

Table 8 also shows the change of related party transactions one year before and after the loan announcement year. Related party transaction increases significantly for firms issuing intra-group loans, while this is not the case for firms issuing inter-group loans. A t-test shows that this difference is significant at the ten percent level. Thus, it seems that the tunneling activities are indeed more pervasive after the issuance of intra-group loans. Furthermore, we find similar results for the firms receiving the intra-group versus inter-group loans, although the results are not statistically significant. We indeed find supporting evidence that the intra-group loans involve tunneling concerns while the inter-group loans are less susceptible to this concern.

7. Conclusion

The granting of entrusted loans in China provides us with a unique setting to assess the valuation effects of inter-corporate lending and borrowing. We find that investors react negatively to the issuance of inter-corporate loans but positively to their receipt. The issuing of inter-corporate loans may indicate credit misallocation to uninformed investors, i.e., the issuing firms run out of worthy projects to finance. Furthermore, the issuance of inter-corporate loans to subsidiaries may reveal tunneling and expropriation of minority shareholders.

On the other hand, the receipt of intra-group loans, especially those from inter-group lenders, provides certification for the borrowing firms. However, the receipt of intra-group loans from controlling shareholders involves corporate propping up and tunneling. In contrast to bank loan announcements, which often provoke negative market reactions (Bailey, Huang and Yang (2011)), non-financial corporate lenders in China can convey proprietary information to the uninformed investors.

We also confirm our results by linking the CARs to loan, counter-party, and firm level variables. The issuance of inter-corporate loans generate higher CARs for the inter-group loans, while this effect is mitigated by the separation of cash flow rights and control rights. Similarly, the receipt of inter-group loans generates higher CARs

intra-group loans, while this effect is also mitigated by the tunneling concerns. Our results shed light on inter-corporate loans as signaling devices for credit misallocation by issuing firms, and for tunneling and expropriation through intra-group loans within business groups.

We further examine the *ex post* consequences on the investment, performance and related party transaction by these inter-corporate loans. On the one hand, firms issuing and receiving intra-group loans cut down their corporate investment, which suggests a credit misallocation in the internal capital market within the business group. On the other hand, firms issuing intra-group loans have a worse performance, which confirms potential tunneling and expropriation. Firms issuing inter-group loans, however, can alleviate the deterioration of the performance through the high interest revenue from these loans. Firms receiving intra-group / inter-group loans do not have better performance, which may be caused by the corporate propping-up and tunneling for the former, and a high interest burden by these loans for the latter.

Although inter-corporate loans play an increasingly important role in China, we still know little about the welfare gains from these loans. Because inter-corporate loans rarely arise between listed firms, we cannot calculate the net gains from such loans. Further research on the net gains from inter-corporate loans would provide more insight on whether or not such loans should be encouraged.

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Table 1: Definitions of variables

Variable category	Variable name	Definition
Loan	Loan size	The amount of inter-corporate loan, in millions of RMB
	Spread	The annual interest rate on the inter-corporate loan over the basis lending rate minus one, i.e., the interest premium over the basis lending rate
	Maturity	The maturity of the inter-corporate loan, in months
	Guarantee	equals 1 if the loan is collateralized or guaranteed by a third-party, 0 otherwise
	Loan revision	equals 1 if the loan terms are revised, 0 otherwise
Counter-party Firm	Intra-group loan	equals 1 if the counter-party firm is a loan-announcing firm's subsidiary, controlling shareholder, or belongs to the same business group
	Counter-party ownership	A loan-announcing firm's equity ownership in the counter-party firm, or the controlling shareholder's equity ownership in a loan-announcing firm
	Counter-party industry	equals 1 if the industry of the counter-party firm is the same as the loan-announcing firm, 0 otherwise
	Counter-party size	The logarithm of the total assets of the counter-party firm
	State-owned counter-party	equals 1 if the counter-party firm is state-owned, 0 otherwise
(Loan-announcing) Firm	Firm size	The logarithm of total assets
	Age	The number of years since listing in the stock market
	ROA	Earnings before interest and tax (EBIT) on asset adjusted by industry median
	Leverage	Total liabilities over total assets
	Separation	The separation of cash flow rights and control rights
	State control	equals 1 if the ultimate owner is the state, 0 otherwise
	Cash holding	Cash over total assets

**Table 2: Descriptive statistics on the announcement of inter-corporate loans.
Panel A: Distribution of inter-corporate loan announcements by year and type**

Year	All	Issuance		Receipt	
		Intra-group	Inter-group	Intra-group	Inter-group
2005	20	10	5	5	0
2006	26	15	3	5	3
2007	40	25	8	5	2
2008	88	50	22	12	4
2009	84	38	27	19	0
2010	114	62	23	26	3
2011	185	104	33	48	0
2012	146	89	45	8	4
Total	703	393	166	128	16

Panel B: Distribution of inter-corporate loan announcements by industry

Industry names	All	Issuance		Receipt	
		Intra-group	Inter-group	Intra-group	Inter-group
Agriculture, forestry, animal husbandry and fishery	9	6	3	0	0
Mining	40	36	1	3	0
Manufacturing	330	187	78	59	6
Utilities	60	42	8	9	1
Construction	10	7	0	3	0
Transportation	32	25	1	6	0
Information technology	26	4	21	1	0
Wholesale and retail trade	52	17	33	1	1
Real estate	81	26	12	36	7
Social service	43	35	5	3	0
Communication and culture	4	2	2	0	0
Comprehensive	16	6	2	7	1
Total	703	393	166	128	16

Table 3 Panel A: Loan issuance. Loan size is the amount of inter-corporate loans in millions of RMB; Maturity is the loan maturity in numbers of months; Spread is the percentage increase in the interest rate from the basis lending rate; Guarantee equals one if a loan is collateralized or guaranteed by a third party, zero otherwise. Loan revision equals one if the loan terms are revised, zero otherwise; Firm size is the logarithm of total assets; Age is the number of years listed on the stock exchanges. The test of mean difference between issuance intra- and inter-group loans reports the difference with significance *** at one percent, ** at five percent, and * at ten percent level.

	Intra-group					Inter-group	Difference
	Total	Subtotal	Controlling shareholders	Subsidiaries	Others	(N=166): E	
	(N=559)	(N=393):A	(N=6):B	(N=365):C	(N=22):D		mean and median test: A-E
Loan size	189.834	224.563	243.000	224.718	214.943	109.094	115.469**
	70.000	77.823	220.000	78.400	50.000	60.000	17.823
Maturity	16.144	17.950	13.500	18.235	12.545	12.355	5.595***
	12.000	12.000	12.000	12.000	12.000	12.000	0.000***
Spread	0.458	0.140	0.079	0.127	0.418	1.163	-1.024***
	0.057	0.000	0.150	0.000	0.100	1.216	-1.216***
Guarantee	0.261	0.112	0.000	0.107	0.227	0.614	-0.502***
	0.000	0.000	0.000	0.000	0.000	1.000	-1.000***
Loan revision	0.088	0.094	0.000	0.093	0.136	0.072	0.022
	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Firm size	10.939	12.608	10.045	12.142	20.935	5.345	7.264***
	4.297	5.781	8.705	5.694	13.389	2.868	2.912***
Age	12.724	12.549	13.667	12.444	13.955	13.133	-0.584
	13.000	13.000	13.500	13.000	14.000	14.500	-1.500**
ROA	0.069	0.070	0.085	0.071	0.054	0.066	0.004
	0.062	0.063	0.062	0.063	0.066	0.060	0.003
Leverage	0.481	0.522	0.734	0.519	0.519	0.383	0.139***
	0.505	0.536	0.819	0.535	0.547	0.361	0.175***
Cash holding	0.187	0.163	0.118	0.166	0.138	0.243	-0.080***
	0.157	0.142	0.115	0.143	0.096	0.213	-0.071***
State control	0.723	0.785	1.000	0.789	0.667	0.582	0.203***
	1.000	1.000	1.000	1.000	1.000	1.000	0.000***
Separation	0.055	0.060	0.088	0.058	0.098	0.042	0.019**
	0.000	0.000	0.053	0.000	0.120	0.000	0.000

Table 3 Panel B: Loan receipt. Loan size is the amount of inter-corporate loans in millions of RMB; Maturity is the loan maturity in numbers of months; Spread is the percentage increase in the interest rate from the basis lending rate; Guarantee equals one if a loan is collateralized or guaranteed by a third party, zero otherwise. Loan revision equals one if the loan terms are revised, zero otherwise. The test of mean difference between intra- and inter-group loans reports the difference with significance *** at one percent, ** at five percent, and * at ten percent level.

	Intra-group					Inter-group	Difference
	Total	Subtotal	Controlling shareholder	Subsidiaries	Others		
	(N=144)	(N=128):A	(N=94):B	(N=8):C	(N=26):D	(N=16): E	mean and median test: A-E
Loan size	310.680	309.673	325.510	188.750	291.252	318.800	-9.127
	165.000	150.000	200.000	105.000	96.847	200.000	-50.000
Maturity	19.227	19.336	19.557	12.750	21.000	18.167	1.170
	12.000	12.000	12.000	12.000	12.000	12.000	0.000
Spread	0.057	0.046	0.018	0.207	0.111	0.170	-0.124
	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Guarantee	0.118	0.086	0.085	0.000	0.115	0.375	-0.289***
	0.000	0.000	0.000	0.000	0.000	0.000	0.000***
Loan revision	0.104	0.117	0.085	0.000	0.269	0.000	0.117
	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Firm size	9.173	9.380	9.973	6.786	8.030	7.415	1.965
	3.157	3.008	2.794	3.710	3.498	4.431	-1.422
Age	13.385	13.445	13.904	8.625	13.269	12.867	0.579
	15.000	15.000	16.000	6.000	13.500	16.000	-1.000
ROA	0.053	0.053	0.050	0.057	0.063	0.057	-0.004
	0.051	0.051	0.052	0.048	0.045	0.057	-0.007
Leverage	0.602	0.595	0.602	0.531	0.588	0.663	-0.068
	0.626	0.599	0.623	0.599	0.559	0.687	-0.088
Cash holding	0.122	0.121	0.117	0.175	0.119	0.125	-0.003
	0.106	0.107	0.104	0.175	0.107	0.103	0.004
State control	0.700	0.728	0.780	0.250	0.692	0.467	0.261**
	1.000	1.000	1.000	0.000	1.000	0.000	1.000**
Separation	0.061	0.058	0.064	0.055	0.039	0.085	-0.027
	0.000	0.000	0.000	0.030	0.000	0.131	-0.131

Table 4: Determinants of loan issuance and receipt from the multi-nomial logit model. The dependent variable is loan issuance / receipt which equals 1 if a firm issues/receives an inter-corporate loan, 0 otherwise. Leverage is total liabilities over total assets; State-control equals one if the ultimate controller of the firm is state-owned, zero otherwise; Age is the logarithm of the firm age. Marginal effects are reported with robust standard errors in parentheses. Significance indicated as *** at one, ** at five, and * at ten percent level.

	(1)	(2)	(3)	(4)	(5)	(6)
	no loan	Issuance intra-group	inter-group	no loan	Receipt intra-group	inter-group
Separation	-0.014** (0.006)	0.013*** (0.003)	0.001 (0.004)	-0.031** (0.014)	0.029** (0.013)	0.002 (0.002)
ROA	0.571 (0.376)	0.054 (0.378)	-0.625*** (0.178)	-0.116 (0.758)	-0.111 (0.761)	0.228** (0.108)
Leverage	0.283 (0.175)	0.186 (0.167)	-0.470*** (0.077)	-0.659* (0.370)	0.445 (0.328)	0.214*** (0.074)
Cash holding	0.536** (0.255)	-0.570*** (0.194)	0.034 (0.119)	2.253*** (0.442)	-2.089*** (0.381)	-0.164 (0.128)
State control	0.042 (0.044)	0.088 (0.054)	-0.131*** (0.031)	0.085* (0.044)	-0.048 (0.050)	-0.037 (0.025)
Age	-0.002 (0.005)	-0.004 (0.004)	0.006 (0.005)	0.004 (0.012)	-0.002 (0.011)	-0.002 (0.002)
Observations	454	454	454	162	162	162
R-squared	0.0815	0.0815	0.0815	0.275	0.275	0.275

Table 5 Panel A: CARs for loan issuance

	Total (N=547)	Intra-group			Inter-group (N=163): E	Difference A-E (mean test)	
		Subtotal (N=384):A	Sample1 (N=6):B	Sample2 (N=356):C			Sample3 (N=22):D
CAR[-1,0]	-0.0034***	-0.0046***	-0.0169*	-0.0048***	0.0017	-0.0007	-0.0039
CAR[-1,1]	-0.0039**	-0.0056***	-0.0140	-0.0059***	0.0006	0.0000	-0.0056*
CAR[-1,2]	-0.0038**	-0.0060***	-0.0089	-0.0061***	-0.0027	0.0014	-0.0074**
CAR[-1,3]	-0.0043**	-0.0071***	-0.0133	-0.0069***	-0.0083	0.0025	-0.0096**
CAR[-1,4]	-0.0040**	-0.0084***	-0.0161	-0.0082***	-0.0086	0.0063	-0.0147***

Table 5 Panel B: CARs for loan receipt

	Total (N=137)	Intra-group			Inter-group (N=15): E	Difference A-E (mean test)	
		Subtotal (N=122):A	Sample1 (N=91):B	Sample2 (N=8):C			Sample3 (N=23):D
CAR[-1,0]	0.0053*	0.0035	0.0057*	-0.0083	-0.0012	0.0205	-0.0170*
CAR[-1,1]	0.0057*	0.0028	0.0058	-0.0118	-0.0039	0.0287	-0.0259**
CAR[-1,2]	0.0073**	0.0043	0.0076*	-0.0116	-0.0032	0.0316**	-0.0273**
CAR[-1,3]	0.0082**	0.0045	0.0066	0.0055	-0.0038	0.0379**	-0.0334***
CAR[-1,4]	0.0061	0.0029	0.0032	0.0284	-0.0072	0.0323*	-0.0294**

Table 6: CARs sorted by loan, counter-party and firm characteristics. Loan size is the amount of inter-corporate loans in millions of RMB; Maturity is the loan maturity in number of months; Spread is the percentage increase in the interest rate from the basis lending rate; Guarantee equals one if a loan is collateralized or guaranteed by a third party, zero otherwise; Loan revision equals one if a loan revises previous loan terms, zero otherwise; Counter-party ownership is the ownership of the controlling shareholder in a loan-announcing firm, or the ownership of a loan-announcing firm's subsidiary; Same industry equals one if the counter-party and loan-announcing firm are in the same industry, zero otherwise; Counter-party size is the logarithm of total assets of the counter-party; State-owned counter-party equals one if the counter-party is state-owned, zero otherwise; Firm size is the logarithm of the total assets; Age is the number of years listed on the stock exchanges; ROA is the return on assets; Cash holding is cash over total assets; State-control equal one if the ultimate controller of the firm is state-owned, zero otherwise; Separation is the separation of cash flow rights and control rights. The t-test of CAR difference between subsamples reports t-statistics with significance *** at one percent, ** at five percent, and * at ten percent level.

Variable type	Variable name	Category	Issuance: intra		Issuance: inter		Receipt: intra		Receipt: inter	
			CAR[-1,4]	Difference of CAR	CAR[-1,4]	Difference of CAR	CAR[-1,4]	Difference of CAR	CAR[-1,4]	Difference of CAR
Loan	Loan size	> median	-0.0053*	0.0023	0.0035	-0.0022	0.0012	-0.0013	0.0415*	0.0405
		≤ median	-0.0076**		0.0057		0.0025		0.0010	
	Spread	> median	-0.0069*	-0.0038	0.0016	0.0039	0.0088	0.0108	0.0275	0.0075
		≤ median	-0.0031		-0.0023		-0.0020		0.0200	
	Maturity	> 1 year	0.0006	0.0078	0.0010	-0.0046	-0.0028	-0.0056	0.0106	0.0053
		≤ 1 year	-0.0072**		0.0056		0.0028		0.0053	
	Guarantee	Yes	0.0005	0.0100	0.0019	-0.0112	-0.0017	-0.0050	0.0458	0.0202
		No	-0.0095***		0.0131*		0.0033		0.0256	
Loan revision	Yes	-0.0060	0.0026	-0.0077	-0.0151	0.0098	0.0077	-	-	
	No	-0.0086***		0.0074*		0.0021		0.0323*		
Counter-party	Same industry	Yes	-0.0071**	0.0001	-0.0037	-0.0065	0.0035	0.0046	0.0624**	0.0303
		No	-0.0072*		0.0028		-0.0011		0.0321	
	Counter-party size	> median	-0.0051	0.0010	0.0086	0.0189**	-0.0020	-0.0268	0.0327	-
		≤ median	-0.0061*		-0.0103*		0.0248		-	
State-owned counter-party	Yes	-0.0037	0.0108**	0.0256***	0.0268***	-0.0005	-0.0083	0.0223	-0.0213	
	No	-0.0145***		-0.0012		0.0078		0.0436		
(Loan-announcing Firm)	Firm size	> median	-0.0054**	0.0063	0.0138**	0.0115	0.0038	0.0015	0.0336	0.0103
		≤ median	-0.0117***		0.0023		0.0023		0.0233	
	Age	> median	-0.0056*	0.0043	0.0117**	0.0126	-0.0018	-0.0110	0.0075	-0.0448
		≤ median	-0.0099***		-0.0009		0.0092		0.0523*	
	ROA	> median	-0.0065*	0.0025	0.0119**	0.0106	0.0081	0.0086	0.0496	0.0306
		≤ median	-0.0090***		0.0013		-0.0005		0.0190	
	Cash holding	> median	-0.0096**	-0.0034	0.0073	0.0041	0.0068	0.0055	0.0118	-0.0212
		≤ median	-0.0062**		0.0032		0.0013		0.0330	
	Leverage	> median	-0.0070**	0.0016	0.0130	0.01	0.0016	-0.0035	0.0387**	0.0612
		≤ median	-0.0086**		0.0030		0.0051		-0.0225	
	State control	Yes	-0.0060**	0.0080	0.0130**	0.0176**	0.0013	-0.0058	0.0480	0.0361
		No	-0.0140**		-0.0046		0.0071		0.0119	
	Separation	Yes	-0.0103***	-0.0033	-0.0056	-0.0194**	0.0075	0.0078	0.0070	-0.0476
		No	-0.0070**		0.0138**		-0.0003		0.0546**	

Table 7: CAR[-1,4] on firm and loan characteristics.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Issuance				Receipt			
Inter-group	0.014*** (0.003)	0.020*** (0.005)	0.014* (0.007)	0.016** (0.007)	0.027** (0.009)	0.054** (0.018)	0.068*** (0.010)	-0.117 (0.142)
Inter-group x Separation		-0.124*** (0.032)	-0.095* (0.044)	-0.098** (0.044)		-0.398* (0.207)	-0.382*** (0.101)	0.626 (0.832)
Separation		0.032 (0.030)	0.025 (0.029)	0.055 (0.038)		0.081 (0.058)	0.022 (0.055)	0.026 (0.079)
Firm size		0.004** (0.001)	0.003 (0.002)	0.001 (0.003)		-0.002 (0.006)	-0.005 (0.010)	-0.013 (0.011)
Age		0.001 (0.001)	0.001** (0.001)	0.001* (0.001)		-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
ROA		0.114** (0.039)	0.062 (0.044)	0.039 (0.059)		0.173*** (0.027)	0.265*** (0.050)	0.217*** (0.063)
Cash holding		0.007 (0.018)	0.031 (0.023)	0.044 (0.029)		-0.018 (0.054)	0.023 (0.069)	-0.024 (0.085)
Leverage		-0.011 (0.013)	-0.020 (0.014)	-0.009 (0.019)		0.030 (0.029)	-0.007 (0.041)	-0.018 (0.039)
State control		0.013*** (0.004)	-0.003 (0.006)	-0.002 (0.004)		0.004 (0.005)	0.015** (0.005)	0.010 (0.024)
Same industry			-0.004 (0.005)	-0.009* (0.004)			0.017 (0.013)	0.012 (0.018)
Counter-party size			-0.001 (0.001)	-0.000 (0.002)			-0.006* (0.002)	-0.003 (0.004)
State-owned counter-party			0.022*** (0.002)	0.023*** (0.002)			0.003 (0.012)	0.009 (0.012)
Loan size				-0.001 (0.002)				0.009* (0.004)
Spread				-0.013** (0.005)				0.021 (0.038)
Maturity				0.003 (0.003)				-0.002 (0.002)
Guarantee				0.013* (0.007)				-0.021 (0.013)
Loan revision				-0.012** (0.004)				0.001 (0.013)
Constant	-0.008** (0.003)	-0.116*** (0.028)	-0.096** (0.032)	-0.046 (0.080)	0.003 (0.005)	0.061 (0.107)	0.227 (0.163)	0.212 (0.160)
Industry fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Observations	543	542	368	303	136	136	80	73
R-squared	0.019	0.090	0.115	0.155	0.034	0.201	0.295	0.336

Table 8: Post performance. Change of capital expenditure, ROA, and related party transaction before and after the loan announcement year.

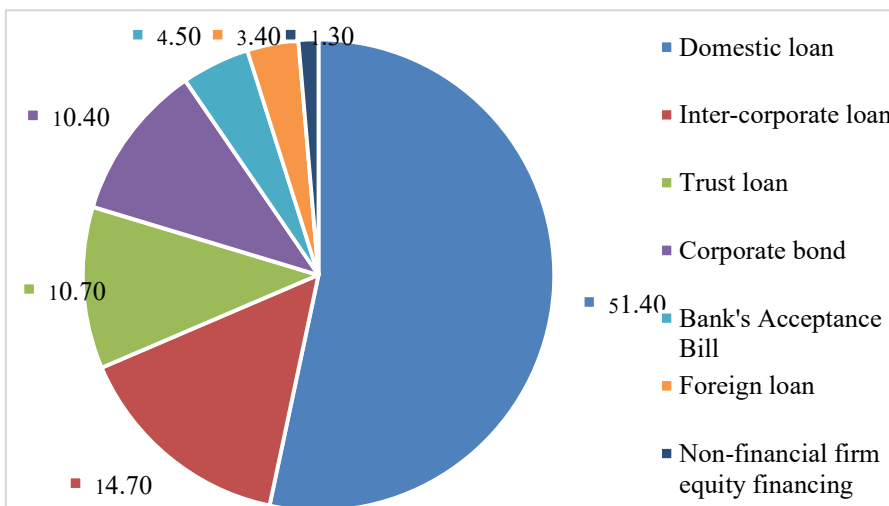
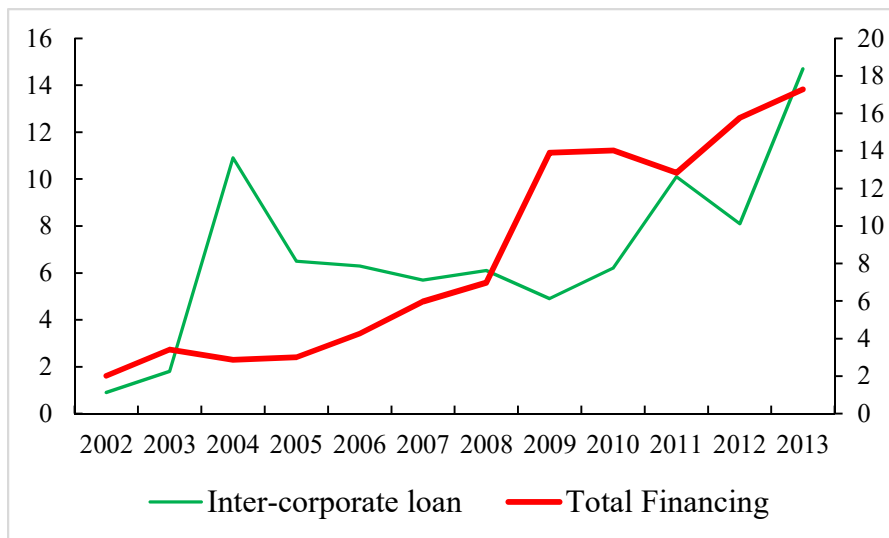
	Intra-group	Inter-group	Difference
Issuance			
Capital expenditure	-0.0102**	0.0027	-0.0129**
ROA	-0.0212**	-0.0058	-0.0154**
Related party transaction	0.1655***	-0.0351	0.2007*
Receipt			
Capital expenditure	-0.0126**	-0.0088	-0.0039
ROA	-0.0009	-0.0266	0.0257
Related party transaction	0.2941	-0.0192	0.3133

Appendix 1: Timeline of laws and regulations related with entrusted loans

Date	Type	Name	Note	Institution
12/30/1992	Entrusted loan	A reply to the ICBC on the issues of entrusted loan	It clarifies several issues on entrusted loans correspondingly the request of the <i>Industrial and Commercial Bank of China</i> (ICBC), e.g. the definition of entrusted loans.	PBC
5/16/1996	Litigation guidance	A reply to Sichuan People's Higher Court on the qualification of subjects in the entrusted loan contracts	It specifies the rules for the subjects in the litigation cases on entrusted loan contracts corresponding a request by the <i>Sichuan People's Higher Court</i> .	PSC
8/1/1996	Entrusted loan	General rules on loans	It specifies detailed rules on entrusted loans.	PBC
12/13/1997	Litigation guidance	Issues on the litigation cases on certificates of deposit	It specifies several rules for the disputes in entrusted loan contracts.	PSC
1/1/1998	Disclosure requirements	Regulations of IPO by Shanghai and Shenzhen Stock Exchange	It specifies the disclosure requirement on entrusted loans, and also related party transactions. It has been revised seven times, and the latest version is effective from July 2012.	SSC and SZSE
4/1/1999	Interest rate lateralization	Interest rate regulations of RMB	It specifies the regulations for the interest rate of deposits and loans denominated in RMB.	PBC
4/5/2000	Entrusted loan	Notice on the issues for entrusted loan by commercial banks	It specifies a definition of entrusted loans, and switches the approval system to the registration system for entrusted loans.	PBC
10/19/2005	Entrusted loans	Notice on the CSRC suggestion on enhancing the quality of listed firms	It prohibits the entrusted loans from the listed firms to the controlling shareholders.	SCC
10/27/2005	Disclosure requirements	China securities law	It specifies the types of major events that should be announcement timely in Article of 67 at Chapter 3, e.g. entrusted loan.	NPC
2/2/2007	Disclosure requirements	Explanatory notice on the regulations on information disclosure of listed firms	It specifies the information disclosure of extraordinary items for listed firms, e.g., entrusted loans.	CSRC
7/19/2013	Interest rate lateralization	Notice on the further reform for the marketization of interest rate	It lifts the regulation on the floor of the lending interest rate, and also the ceiling of the lending interest rate for rural credit cooperatives.	PBC
12/10/2013	Entrusted loan	Notice on several issues of tightening the regulation on shadow banking	It tightens the regulation for the shadow banking system including entrusted loans	SCC

Abbreviations: NPC is the National People's Council; PBC is People's Bank of China; PSC is the People's Supreme Court; SSC is the Shanghai Stock Exchange; SZSC is the Shenzhen Stock Exchange. SCC is the State Council of China; CSRC is the China Securities Regulatory Commission.

Appendix 2: Market shares of financing sources in China. The upper panel shows the proportion of inter-corporate loan over total financing (left-axis, in percentage points) and the trend of total financing (right axis, in trillions of RMB), and the bottom panel shows the market share of various types of financing in the total financing of 2013. Data is retrieved from the PBOC website.



Appendix 3: Translation of an inter-corporate loan announcement.

Stock abbreviation: Guiyan Boye Stock code: 600459 No: Temporary 2011-4

Announcement of an entrusted loan to a fully owned subsidiary

The board of directors and all members declare that this announcement contains no false documentation, misleading statement or omission of important items, and bare individual and joint liability for the truthfulness, validity and completeness of the announcement.

Important notices for the entrusted loan

Financial institution: *Kunming* branch, *China Citic Bank*

Borrower: Guiyan Yimen Ziyuan Ltd (hereafter Yimen Ziyuan Ltd)

Amount: 30 million RMB

Maturity: One year

Interest rate: 7.07 percent per year

1. Summary

On Feb 25th, 2011, the eighth session of the fourth board meeting of the listed firm passes the proposal of providing an entrusted loan to a fully owned subsidiary. The board agrees to extend an entrusted loan of 30 million RMB to *Yimen Ziyuan Ltd*. This transaction does not constitute a related transaction. This entrusted loan does not need an approval from the shareholders' meeting.

2. Basic information about the borrower

Yimen Ziyuan Ltd is fully owned by the listed firm *Guiyan Boye*. It was set up on April 1st 2010 with the approval from the *Industrial and Commercial Administrative Bureau of Yimen County at Yunnan Province*. It has a registered capital of 50 million RMB, with the registered address: *Xiaolongkou Meishicheng, Xihuan Road, Longquan Town, Yimen County, Yuxi City, Yunnan Province*. Main businesses of the firm: the development and applications of the refinery skills for the resources of precious metals; the collection and processing of second-hand resources of precious metals; the manufacturing of basic products of precious metals; the manufacturing of special powder materials; the operation of skills and products made by the listed firm (according to the approved project and maturity if the operation involves special approvals by the laws).

Up until Sep 30th, 2010, the total assets of the *Yimen Ziyuan Ltd* is 54.76 million RMB; the total liabilities is 4.95 million RMB; total shareholders' equity is 49.81 million RMB; net profit is -188,000 RMB. None of the above numbers are audited by a third party.

3. Main content of the entrusted loan

According to the demand of *Yimen Ziyuan Ltd's* operation and development, the listed firm provides an entrusted loan of 30 million RMB to *Yimen Ziyuan Ltd*. The loan has a maturity of one year, and an annual interest rate of 7.07 percent. (Please refer to the signed contract for the detailed items of the entrusted loan)

4. Sources of the fund for the entrusted loan

The fund is from the listed firm's self-owned fund. *Yimen Ziyuan Ltd* will repay the principal and interest in a lump sum at maturity.

5. Purpose of the entrusted loan and its effect on the listed firm

The entrusted loan will be used for *Yimen Ziyuan Ltd's* operation and development. It will not affect the listed firm's normal operation as the fund is from the self-owned fund. *Yimen Ziyuan Ltd* is fully owned by the listed firm, so it can repay the entrusted loan at maturity.

Here announces the transaction.

The board of Guiyan Boye Co. Ltd., 2011/2/26

Appendix 4: The size of the entrusted loans in 2011 for firms listed on Shanghai Stock Exchange (in billions of RMB)

Data source: “*An analysis on entrusted wealth management products and entrusted loans in 2011 for firms listed in Shanghai Stock Exchange*” released by Shanghai Stock Exchange.

Categories	Balance 2010 year end	Loan issued	Loan received	Balance 2011 year end
Subsidiaries with a full or controlling ownership	52.77	65.56	30.25	88.08
Subsidiaries or joint ventures without a controlling ownership	4.18	5.15	2.87	6.47
Unconnected parties	7.26	14.52	8.34	13.44
Other connected parties	0.18	0.78	0.19	0.77
Total	64.38	86.01	41.64	108.75

Appendix 5: Average abnormal returns for issuance and receipt of inter-corporate loans in event window [-20, 20]

