

Enforceability and the Effectiveness of Laws and Regulations^{*}

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Abstract

Controlling shareholders in China can divert assets from listed firms or coerce firms to serve as guarantors on questionable loans. A new rule was enacted prohibiting diversion for ‘non-operational’ purposes, and firms complying with this rule experienced a reduction in related party transactions, an increase in investment and dividends, and better performance. Another contemporary rule aimed to standardize practice of firms providing loan guarantees, but had no impact on firms. Our results highlight the importance of *enforceability*: laws and regulations that can be enforced at lower costs are more likely to succeed, especially in countries with weak formal institutions.

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I. Introduction

The extensive literature on law and finance has established robust associations between legal protection of investors and better financial and economic outcomes across countries. But which types of laws and regulations are more effective in different countries remains elusive. For many developing countries characterized by weak institutional environment, the costs of developing legal and financial institutions can be enormous.¹ Hence, the introduction of laws and regulations that have significant impact and can be enforced at reasonable costs should be given the highest priority. One of the key obstacles for developing financial markets and strengthening corporate governance in developing countries is powerful and entrenched controlling shareholders, who can ‘tunnel’ resources from firms to themselves.² While there are many possible solutions for this ‘self-dealing’ problem, a lot has to do with the enforcement of laws and regulations.

China provides an intriguing case to study the effects of laws and legal enforcement on financial markets. Despite fast growth since its inception in 1992, China’s stock market remains inefficient; many listed firms are converted from state-owned enterprises (SOEs), and until recent years various government agencies retain majority ownership stakes of these firms (Allen, Qian, and Qian, 2005, 2008). This ownership structure, in an environment of weak corporate governance, underdeveloped institutions and a market populated with mostly retail investors, leads to widespread tunneling by controlling shareholders. Despite the government’s effort in recent years to reform and strengthen the legal system, it remains a difficult process for minority shareholders, especially individual investors, to take legal actions against insider misconduct. Courts at all levels have had a long tradition of protecting state interests and have little experience with private

¹ The literature on law and finance is pioneered by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998), and others. Looking at the bankruptcy code, Djankov, McLiesh and Shleifer (2007) find that, despite significant economic benefits, there is very little time variation of creditor rights over the past 25 years around the globe.

² Black and Kraakman (1996), Bebchuk and Zingales (2000), Bebchuk, Kraakman, and Triantis (2000), and Gilson and Gordon (2003) all highlight the importance of protecting outside investors from large shareholders and other insiders, especially in emerging markets. Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) construct the self-dealing index and find it to be correlated with stock market development across a large sample of countries.

plaintiff-driven litigations.³ Therefore, the most and perhaps only effective way to rein in tunneling by insiders is through laws and regulations along with an effective enforcement process.

Tunneling by corporate insiders takes on many forms. For example, through holding companies or other related parties, controlling shareholders frequently divert assets (cash or real assets) away from listed firms. Listed firms also ‘involuntarily’ provide loan guarantees for the subsidiaries or related parties of the controlling shareholders. Both forms of tunneling can lead to substantial losses for minority shareholders and other stakeholders. In this paper we examine an important difference between these two types of activities: the effort and costs required for an *outsider* (e.g., an auditor, regulator or judge) to distinguish a legitimate transaction that can be value-increasing from tunneling. We then relate the differences in the ‘enforcement costs’ of these activities to different actions taken by the regulators and how the regulations affect firms.

In the case of asset diversions, each transaction between a listed firm and its large shareholders *must* be recorded in a timely fashion so that outside auditors can keep track of all the transactions. Our evidence also shows that the transactions between firms and their controlling shareholders are one-sided: in the overwhelming majority of cases the listed firm ‘lends’ to its large shareholders, and only in a few cases the firm ‘borrows’ from its controlling shareholder. On the other hand, multiple guarantors in conjunction with collateral are often needed to secure a loan for many firms in China—hence one reason for a firm to provide loan guarantees for other firms is to expect the other firms to reciprocate. As a result, we observe large networks of firms that provide guarantees for each other. While a listed firm must disclose the provision of a loan guarantee as well as the identity of the beneficiary of the guarantee—i.e., the borrower—in its annual report, the cash flow consequences of the guarantees will not be reflected in the firm’s balance sheet until the borrower defaults on the loan *and* when the guarantor(s) must pay to cover the losses. Given the

³ For more details on the role of law and legal system in finance and commerce in China, see Pistor and Xu (2005), and Clarke, Murrell and Whiting (2008).

complicated structure of loan contracts, including multiple guarantors, collateral requirements, and covenants, as well as the lengthy and unpredictable loan workout and restructuring process and outcomes, it is therefore difficult to differentiate a guarantor on a ‘normal’ loan from that on a questionable loan structured by the controlling shareholder or its related parties.

In 2005, China Securities Regulatory Commission (CSRC, equivalent to the SEC in the U.S.) announced two new rules specifically designed to curb the two forms of tunneling activities. The first rule prohibits controlling shareholders and related parties to divert assets from listed firms for ‘non-operational’ purposes. These include listed firms paying for the debt and expenses (salaries, advertising, etc.) of their large shareholders and related parties; in some cases the controlling shareholders would take assets without providing any explanation on the purpose for the diverted assets, resembling outright ‘stealing.’ According to this rule, all controlling shareholders must repay diverted assets by the end of 2006, or face legal penalties including imprisonment. The enforcement process is also transparent in that both the Shanghai and Shenzhen Stock Exchanges provide details on both the paying and nonpaying controlling shareholders and the affected firms. Finally, the outcome of the enforcement process is satisfactory, in that most of the implicated controlling shareholders returned diverted assets to the listed firms by the end of 2006.

The second rule aims to ‘standardize’ the practice of loan guarantees, but it does not provide any specific guidelines on the implementation process or set any restrictions on any aspect of loan guarantees. Hence, the burden of responsibilities is left entirely to the Board of Directors of the listed firms. Not surprisingly, we find that neither the frequency nor the amount of firms providing loan guarantees changes after the new rule is announced.

We next examine the impact of the anti-asset diversion rule on firms. We show that the timing of the announcement of the new rule was not anticipated by listed firms. Hence, we employ a standard ‘difference-in-difference’ approach to examine the impact of these new rules on firms’

behavior and performance. We find that firms complying with the rule experience a reduction in related party transaction relative to those not affected by the new rule. This is consistent with the hypothesis that the rule makes it more difficult for controlling shareholders to divert assets.

Moreover, these firms increase investment and cash dividends to shareholders, and have significantly better operating performance and higher (cumulative) abnormal stock returns over the period of the announcement and enforcement of the rule. These results are robust to controlling for whether a firm also provides loan guarantees to other firms in a given year.

Overall, we conclude that given the complicated nature and large costs in verifying tunneling vs. normal business transactions, the government's handling of loan guarantees—more precisely, lack of action—is reasonable. The new rule and strong enforcement process targeting the most egregious forms of asset diversions (for ‘non-operational’ purposes), however, are effective in stopping this form of asset diversion and reduces the incentive of controlling shareholders to tunnel. Restraining the power of controlling shareholder in turn increases the incentive of managers to create value for all shareholders through investment, growth and payouts.

Our paper contributes and extends the literature on law and finance, and in particular, conditions under which legal and regulatory reforms are effective in emerging markets. Our within-country study avoids the pitfalls of cross-country studies, and our difference-in-difference approach overcomes the problems in separating the effects of the laws and regulations of interests from other factors. More importantly, by examining and comparing the differences in the two types of tunneling activities and the impact of the associated rules, we provide direct evidence that *enforceability* is a key determinant of the effectiveness of laws and regulations. This has important implications for developing countries given the prevalence of tunneling, underdeveloped formal institutions, and the fact that the legal system cannot enforce complicated laws and regulations. Our results imply that laws and regulations that are clearly defined so that verifications of ‘right’ from

‘wrong’ can be implemented at low costs will have a much greater likelihood of success in practice, and, as a result, have a greater impact on firms and markets.⁴

Our paper also contributes to the growing literature on China’s capital markets by investigating and comparing the effects of different regulations on listed firms’ governance and performance. In particular, Berkman, Cole, and Fu (2009) and Jiang, Lee, and Yue (2010) examine tunneling by controlling shareholders through loan guarantees and other related lending practices, and find that these activities can severely harm listed firms and their minority shareholders. By contrast, we compare the enforceability of restraining various types of tunneling activities and find that not all types of tunneling activities can be tackled effectively by the regulators, and enforcement cost is the key.⁵

Section II of the paper describes our data sets and compares the nature of two types of tunneling activities and their enforcement costs. Section III presents the empirical results on the impact of the anti-asset diversion regulation on the controlling shareholder’s behavior, investment and payout policies, and firms’ performance. Finally, Section IV concludes.

II. Tunneling Activities and Capital Markets Regulation in China

A defining characteristic of listed firms in China is the prevalence of tunneling by controlling shareholders. As mentioned earlier, many listed firms are converted from SOEs. During the partial privatization and IPO process minority equity ownership stakes are sold to the public in the form of tradable stocks, while the government, through various entities, retains majority ownership (nontradable shares) and control; other legal entities, including SOEs, also hold large

⁴ An extensive strand of literature examines different forms of tunneling in emerging markets (e.g., Lemmon and Lins, 2003; Atasanov, 2005; Cheung, Rau, and Stouraitis, 2006); see, e.g., Johnson, Boone, Breach, and Friedman (2000), and Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) for reviews. In addition, Lerner and Schoar (2005) study different control mechanisms for private equity investors in different countries, and Glaeser, Johnson, and Shleifer (2001) show that better incentives of regulators lead to better law enforcement.

⁵ In addition, see Classens, Djankov, and Lang (2000) and Classens et al. (2002) for studies of ownership structure of East Asian countries. For studies of the impact of ownership structure on Chinese firms’ performance, see, e.g., Fan, Wong, and Zhang (2007), and Berkman, Cole, and Fu (2010).

amounts of nontradable shares. As of February 2005, nontradable shares accounted for more than 60% of all the outstanding stocks. There is also considerable evidence showing that the stock market is inefficient (e.g., Morck, Yeung and Yu, 2000). Moreover, institutional ownership (e.g., through mutual funds) has just begun to develop, and its impact on corporate governance and markets is limited.⁶ At the same time, minority and especially individual shareholders face a lengthy and difficult process to take legal actions against corporate insiders. For example, Firth, Rui, and Wu (2012) and Lu, Pan, and Zhang (2011) find that SOEs have a decided advantage in court trials (as defendant) against other parties, and Lu et al. also find that very few cases of individual investors against listed firms even reach the trial stage. These facts imply that in an environment with weak institutions perhaps the only effective way to restrain tunneling is through laws and regulations along with an effective enforcement process. In the rest of this section, we review the regulations on tunneling and introduce the data sets aimed to compare the effects of regulations on different types of tunneling activities, with the focus on enforcement costs.

II.1 CSRC Regulations toward Asset Diversions and Loan Guarantees

While there are numerous ways in which controlling shareholders can tunnel resources from listed firms, two widespread activities became the focus of new regulations in 2005–2006: asset diversions and loan guarantees. We begin with two illustrative examples. First, as discussed in Berkman et al. (2009), the *Monkey King Co. Ltd.*, a manufacturing company, was listed on the Shenzhen Stock Exchange (SZSE) in 1993 with assets RMB 300 million. In 1994, the *Monkey King Group*, the parent company and largest shareholder of the firm, began to divert assets; in several occasions it did not specify any reason for the ‘borrowed’ assets. The amount of diverted assets reached RMB 890 million in 1999. In its 2000 annual report, *Monkey King Co. Ltd.* revealed that its

⁶ Yuan, Xiao, and Zou (2008) find that the ownership stake by mutual funds has a positive impact on firm performance for the period of 2001–2005. However, Jiang, Lee, and Yue (2010) show that the average ownership by mutual funds is only 1.33% of total shares outstanding (2.8% of tradable shares) for the period of 1999–2004.

net asset is –RMB 376 million with a loss of RMB 689 million. The revenue per share and return on equity dropped from RMB 0.57 and 19.56% in 1993 to –RMB 2.28 and –183.16% in 2000. The *Money King Group* filed for bankruptcy in 2001, leading to a total loss of RMB 890 million for *Monkey King Co. Ltd.*, and its stock was labeled as the “ST” category for bankrupt (listed) firms.

The next example illustrates the nature and scale of loan guarantees. *HaiBo* is a listed firm on the Shanghai Stock Exchange (SHSE), and, as a holding company, most of its income comes from its unlisted subsidiaries. One subsidiary, *Shanghai HaiBo Taxi Co. Ltd.*, generates sizeable profits for the parent company through expansions. Since it is difficult for small, unlisted firms to raise external capital, loan guarantees from *HaiBo* are vital to secure bank loans for *HaiBo Taxi*. In 2003, *HaiBo* provided *HaiBo Taxi* RMB 345 million of guarantees to finance its continuing expansion, which accounted for more than 80% of *HaiBo*’s net assets, exceeding the limit set by CSRC. However, the regulators did not stop the loan or punish *HaiBo* for providing the guarantee, as the loan application was backed by strong economic reasons and prospects.

While in the above example the large scale loan guarantees were justified, similar scale guarantees on questionable loans can derail a good company. Due to these concerns, in 2000 CSRC announced Rule 2000-61, restricting listed firms to provide loan guarantees for their shareholders and the shareholders’ subsidiaries (directly). This rule triggered the formation of complicated loan guarantee circles through which listed firms provide guarantees for their shareholders indirectly. Then CSRC requires listed firms to disclose the provision of loan guarantees to all ‘related parties’ in the “Important Events” section of their annual reports beginning in 2003 (Rule 2003-56). A listed firm’s related parties include all the large shareholders (5% or more), corporate insiders and their affiliates. The same CSRC rule also sets limits on the amount of loan guarantees—no more than 50% of the guarantor’s net assets, as well as on the qualifications of borrower firms to receive guarantees. For example, a listed firm cannot provide loan guarantee to a company with its debt over assets

ratio greater than 70%. However, these rules are not strictly enforced in practice—as illustrated by the *Haibo* example—given the legitimate economic reasons behind loan guarantees.

In June 2005, CSRC issued “the Notice on Resolving Asset Diversions and Loan Guarantees” (Rule 2005-37, “Notice” hereafter) and ordered an evaluation of all listed firms (from both SHSE and SZSE) regarding the transactions between the firms and their controlling shareholders. One goal of the Notice is to stop asset diversions for ‘non-operational purposes’ by the end of 2005. The definition of ‘non-operational purposes’ includes listed firms paying for the debt and expenses of their large shareholders and related parties, and cases in which the controlling shareholders would grab assets without any explanation on the purpose for the diverted assets.⁷ In November 2005, on behalf of CSRC, China’s State Council authorized the implementation of “Suggestions on Improving the Quality of Listed Firms.” It supported the CSRC mandate—strictly preventing all controlling shareholders (or firms’ ultimate owners) from diverting firms’ assets for non-operational purposes. Moreover, all controlling shareholders, especially SOEs and their related parties, must pay back/return the diverted funds and assets by the end of 2006 (see Figure 1 for a summary of key dates and events). In accordance to the CSRC Notice, both the SHSE and SZSE required all listed firms to disclose detailed information regarding asset diversions by their controlling shareholders and other related parties and specific plans and time tables to return all diverted assets (by the end of 2006) in their 2005 annual reports.

CSRC targeted both asset diversions and loan guarantees, but the content and the enforcement process of the new rules were considerably different from the very beginning. For asset diversion, the government imposed new rules that explicitly prohibit controlling shareholders and

⁷ CSRC specifies the following five categories as diverting assets for ‘non-operational purposes’: (1) expenses on salaries, pensions, and insurance of controlling shareholders (and related parties) paid by listed firms; (2) debt paid by listed firms on behalf of controlling shareholders and their affiliates; (3) both direct and indirect lending by listed firms to their controlling shareholders and their affiliates; (4) losses and liabilities incurred by listed firms from providing loan guarantees to controlling shareholders and their affiliates; and (5) assets of listed firms seized by their controlling shareholders and their affiliates without receipts.

other related parties to divert assets from listed firms for non-operational purposes as discussed before; severe punishments, including jail terms, would follow violations. In 2006, both domestic exchanges announced the names of the legal entities that had diverted assets from listed companies and the time and amount of returned (diverted) assets to the public. On June 28, 2006, asset diversions from listed firms were classified as a “serious crime” according to “Amendment No. 6 to the Criminal Law of the People’s Republic of China.” The Amendment also stipulates that “members of the board, supervisors, and senior administrators of listed firms are subject to three- to seven-year imprisonment and fines if found to have manipulated the performance of listed firms and such manipulations have led to severe losses....” Controlling/ultimate shareholders will also be penalized on the same charges if they are found to have conducted similar activities.⁸

For loan guarantees, on the other hand, CSRC only tried to standardize how listed firms should provide guarantees in the Notice without imposing any specific regulations against such practice. While the Notice allows minority shareholders to file lawsuits against a listed firm and/or controlling shareholders (for losses caused by loan guarantees), it leaves the burden of responsibilities to the Board of Directors.⁹ Specifically, the Notice requires that: (1) if a firm provides loan guarantees to its ‘related parties,’ it must obtain the permission from either at least two thirds of its board members and/or a shareholders’ meeting; representatives of the beneficiaries (related parties) cannot participate in the voting; (2) the firm should disclose the maximum amount of loan guarantees in a timely fashion;¹⁰ and (3) board members are responsible for potential losses

⁸ A well-known case involved Shanghai Broadband Technology Ltd. Co (*Shanghai Tech*), a listed firm in SHSE and its controlling shareholder *Nanjing SVT Group (SVT)*. In July 2006, *Shanghai Tech* filed a lawsuit against *SVT* for failing to return diverted assets, and in January 2008, Mr. Jie Zhang, the former CEO of *Shanghai Tech*, was sentenced to two years in prison (and a fine) for being responsible for assets diverted by the *SVT* and losses.

⁹ There is an extensive strand of literature (see, e.g., Schlag, 1985, and Kaplow, 1992) examining whether legal commands should be promulgated as ‘rules’ or ‘standards’: while rules are more costly to design than standards, standards tend to be more costly for individuals and regulators to interpret and enforce.

¹⁰ A high-profile case involved *Cangzhou Chemical Industry (CCI)*, which did not fully disclose the 150 loan guarantees it provided for one of its subsidiaries during 2000-2006. CSRC imposed a fine (RMB 300,000) on *CCI*; another fine and a 10-year ban from the securities markets on the CEO, Mr. Zhende Zhou; similar fines and sanctions were also handed out to two other executives, all for the failure to disclose loan guarantees in a timely fashion.

incurred from loan defaults. The stock exchanges and news media rarely mentioned any information associated with loan guarantees and losses due to loan defaults. In Section II.3 below we show that these new rules have no impact on firms' practice of providing loan guarantees.

II.2 Data and Summary Statistics

A central goal of our empirical work is to provide large sample analyses on the nature of the two types of tunneling activities and how the regulators tackle them. As discussed above, CSRC regulations indicate that each transaction between a listed firm and its large shareholders must be disclosed and verified by the stock exchange. Accordingly, to collect information on firms engaged in asset diversions, we manually search listed firms' 2005 annual reports on asset diversion by controlling shareholders and/or their related parties; for firms listed on SHSE, we also look at the "Disclosure of Detailed Information about Asset Diversion by Listed Firms" from the website of SHSE, which includes detailed information about asset diversion for all firms listed on the exchange. CSRC also requires listed firms to disclose the provision of loan guarantees (total amount and the identity of borrower receiving the guarantee) to all of their 'related parties' in the "Important Events" section annual reports beginning in 2003. We collect information from the WIND Information Company, which compiled such data based on firms' annual reports.

As is common practice we exclude firms in the financial services industries and (IPO) firms listed after 2004, and each firm must maintain 'listed' status for at least one year. This process yields a sample of 1,217 firms listed on SHSE and SZSE from 2003 to 2009. Among them, the controlling shareholders diverted assets from 409 firms in 2005 for 'non-operational' purposes (Panel A, Table 1). CSRC's new anti-diversion rule targets these firms and we show below that the new regulation has a significantly positive impact in reducing asset diversion and improving firm performance. Hence, we regard these firms as the 'treatment group.' To isolate the effects of the new rule from other contemporaneous events, we also examine the rest 808 firms in which the

controlling shareholders do *not* engage in such activities (the ‘control group’). The majority of treatment and control firms operate in manufacturing sectors.¹¹

We obtain financial and accounting variables from the China Stock Market and Accounting Research database (CSMAR, available in WRDS). From Panel B, Table 1, the 409 firms in the asset diversion group are smaller than firms in the control group; they also have lower tangibility (Property, Plant and Equipment over assets), return on assets (ROA, earnings before interests and taxes, or EBIT, divided by lagged book value of total assets), return on equity (ROE, net profits scaled by lagged book value of equity), earnings per share (EPS), investment (capital expenditure over lagged assets), payout (total cash dividend over net income), and higher leverage (ratio of book value of total liabilities to the book value of total assets) than firms in the control group. Consistent with earlier statements that most listed firms are converted from SOEs, the controlling shareholder (indicated by the variable “Gov”) in the majority of sample firms is the government (including local government agencies). In addition, the firms with asset diversion experienced higher CEO turnovers. Finally, we obtain information on stock prices and returns from the WIND database, and find that firms affected by asset diversion have lower average stock returns, but the difference is not statistically significant.

We use two variables to proxy for the degree of asset diversion. The first is ‘other accounts receivable’ *due from* the largest shareholder, scaled by total other accounts receivable. This is one of the accounts for which such transactions would be recorded based on the examples discussed above, and a commonly used proxy for tunneling activities in earlier work (e.g., Jiang, Lee, and Yue, 2010).¹² We also use *net* cash transactions – the amount a firm lends to all of its related parties minus the amount it borrows from these parties, scaled by lagged assets, as another proxy for the

¹¹ We also construct the control groups using *propensity-score matching*; the procedure and results are discussed in Section III below. At the end of 2005, 757 firms have outstanding loan guarantees to one or more ‘related parties’; there are 280 firms engaged in both types of activities (asset diversion and the provision of guarantees).

¹² This measure is also used in other papers as a proxy for tunneling (e.g., Bertrand et al., 2002; Cheung et al., 2006). Some of the asset diversion transactions can be recorded in other accounts including those involving prepayments.

amount tunneled by the controlling shareholders (RPT). A positive RPT thus indicates that the firm is a net *lender* to its related parties. We include transactions from and to *all* related parties of the firm, and not just those directly involving the controlling shareholder, because the controlling shareholder can structure tunneling activities through one or more of their affiliated parties. Thus, these two variables capture different aspects of possible asset diversion by the controlling shareholders. From Table 1, Panel B, the average ratio of either variable for firms in the asset diversion group is higher than that for firms in the control group (difference is significant at 1%).

II.3 Comparing Enforcement Costs

While both types of tunneling activities can potentially bring severe losses and damages to listed firms, the effectiveness of the new rules aimed at constraining these activities depends critically on the enforcement costs; specifically, how difficult it is for the regulators to validate whether a particular transaction is lawful or not. To do this, the regulators must be able to verify details of the transaction, and differentiate between legitimate business reasons behind the transaction and incentives to tunnel assets for the benefit of the controlling shareholders.

Asset Diversion

According to China's disclosure requirements and accounting rules, every transaction between a listed firm and its large shareholders (and all other related parties) must be recorded immediately. For example, each time when a controlling shareholder borrows cash from a listed firm, this transaction must be recorded in the accounting journal entry with the date and amount of the transaction as well as the identity of the borrower. The effect of the transaction must also be immediately reflected in the firm's balance sheet: a decrease in cash/assets and an increase in accounts receivable. These detailed records and frequent updates of the accounting books also make it easy for outside auditors to validate each and every transaction. In addition to reviewing the

firm's accounting journal entries and related documents, auditors can also verify the nature and purpose of a transaction between the controlling shareholder and the firm by reviewing journal entries and related documents (e.g., sales and leasing contracts) of the *controlling shareholder* and its affiliates. In fact, authorized auditors have the right to review accounting books of listed firms and their controlling shareholders and their affiliates without an advance notice. Overall, these accounting and auditing rules enable the CSRC to identify the five categories of asset diversions as 'non-operational' purposes and strictly enforce the return of diverted assets in 2005 and 2006.

To gauge the extent of financial transactions between listed firms and their controlling shareholders, we use "other accounts receivable" due from the largest shareholder as a proxy for asset diversion by the controlling shareholder. On the other hand, when the controlling shareholder *lends* to the listed firm, this transaction is likely to be recorded in "other accounts payable" (to the largest shareholder) of the firm. Table 2 compares the transactions between listed firms and their controlling shareholders (and their affiliates) that are recorded in "other accounts receivable" (Panel A) and "other accounts payable" (Panel B) from 2003 to 2009. The first column in both panels shows the number of listed firms for which a transaction with their controlling shareholders occurred and the second column presents the total amount of such transactions in a given year.

The comparisons between Panel A and B are striking. The largest number of listed firms that actually 'borrowed' from their controlling shareholders is 43 (in 2004, Panel B), and in all the other years less than 40 firms received assets from their largest shareholder. By contrast, the number of listed firms that lend to their controlling shareholder ranges from 321 to 370 during 2003-2005, before the Notice was announced. The total amount of assets that listed firms received from their controlling shareholders is a small fraction of that of assets controlling shareholders managed to take from the listed firms during 2003-2005 and before the implementation of the Notice. Overall, the comparisons in Table 2 provide strong evidence that the financial transactions between listed

firms and their controlling shareholders are *one-sided*: controlling shareholders take much more from the listed firms than they give back.

Given the above facts, CSRC clearly stipulates which types of activities are considered asset diversion for non-operational purposes in the Notice, with the goal of returning diverted assets back to the listed firms and improving corporate governance. As described earlier, the enforcement process is both transparent and forceful. By the end of 2006, the targeted date for repaying diverted assets, controlling shareholders in 380 out of the 408 listed firms had returned all the assets, in the form of cash and real and financial assets (e.g., stocks, bonds), to the corresponding firms. The rest of the firms were still collecting more payments from their controlling shareholders; the value of the assets already received was over 70% of the lost valued of the diverted assets.

Loan Guarantees

As mentioned earlier, CSRC Rule 2003-56, announced in 2003, requires listed firms to disclose the provision of a loan guarantee to any ‘related party’ and the identity of the beneficiary of the guarantee (borrower) in the ‘important events’ section of its annual report. However, unlike the case of asset diversion in which the effects of a transaction are incorporated in the firm’s balance sheet immediately, the cash flow consequences of loan guarantees will not be reflected in the balance sheet until the borrower defaults on the loan *and* when the guarantor(s) actually pay to cover the losses. In most cases when the borrower defaults on a loan, there is a lengthy renegotiation process between the creditors and the borrower; at the end of this process the guarantors may or may not pay to cover losses. Hence, it may take years before a guarantor actually incurs cash losses on a bad loan, at which point massive losses from multiple defaulted loans can bankrupt the guarantor firm within a short period of time.

The second important difference between asset diversions and loan guarantees lies in the reasons and motives of the (guarantor) firm and its controlling shareholder behind a transaction. As

shown in Table 2, in the case of asset diversion it is almost always the controlling shareholder that takes assets from the listed firm. While providing guarantees on questionable loans of the controlling shareholder can also destroy a healthy firm, many loan guarantees are based on solid economic reasons. In addition to imposing collateral requirements and restrictive covenants, banks often require multiple entities (e.g., firms, individuals and government agencies) to provide guarantees before granting a loan to a firm, as illustrated by the example of *Haibo* above. Therefore, firms are willing to *provide* loan guarantees for others because they help each other to secure loans.

Table 3 presents summary statistics on loan guarantees provided to and received by listed firms. Recall that listed firms do not provide guarantees to their shareholders directly due to CSRC Rule 2000-61; instead, loan guarantee circles are formed through which listed firms can provide guarantees to their shareholders (indirectly). Hence, we use loan guarantees to and from all other entities (listed firms or nonlisted firms and entities) to gauge the scale of loan guarantees. In each year during the period 2003-2009, there were more listed firms receiving loan guarantees than providing them but the size of the two groups—loan guarantee providers and receivers—is comparable. The mean and median of all the guarantees received by a firm are greater than those of the guarantees provided by a firm. The results from Table 3 are consistent with the notion that a legitimate reason for a firm to provide loan guarantee for other firms is to expect the other firms to reciprocate, and the observed patterns are clearly different from those in Table 2.

Figure 2 plots the scale of loan guarantees—the ratio of the total amount pledged through loan guarantees to all the related parties of the firms over total assets (top panel)—and the number of firms providing loan guarantees to their related parties (bottom panel) from 2003 to 2009. It is clear that the level and scale of loan guarantees stay more or less the same before and after the Notice announcement date in 2005. These patterns imply that the new regulation aimed at standardizing the process of loan guarantees provision has no significant impact on firms.

Table 4 confirms the patterns shown in Table 3 and Figure 2 in a multivariate regression setting. The dependent variable is: a) whether a listed firm provides loan guarantees in a given year (Columns 1 and 5, Logit), b) the logarithm of the number of times guarantees are provided over the period 2003-2009 (Column 2), c) the log of the amount of guarantees provided (Columns 3 and 6), and d) the fraction of total guarantees provided over the provider's assets (Column 4). We use Tobit models in Columns 2, 3, 4 and 6 to control for censored data issues (we only observe firms that provide at least one loan guarantee). The main explanatory variables include whether a firm receives loan guarantees from other firms in the same year ('Receiving' indicator); the log of the number of times and total amount that the firm receives loan guarantees in the same year; the ratio of the amount of loan guarantee received in year t over lagged total assets; whether the firm received or provided loan guarantees in the past (starting in 2003).

Other controls include lagged firm performance (ROA), size, tangibility, leverage, annual stock returns, an indicator (Gov) that equals 1 if the firm is majority-owned by the state and 0 otherwise, another indicator (ST) that equals 1 if the firm has "Special Treatment" (ST/bankruptcy) status and 0 otherwise, and the ownership stake of the largest shareholder. We include industry and firm location (province) fixed effects in all the models, and cluster standard errors by firms. We also include year fixed effects in Columns 1-4 to absorb the impact of changing economic conditions; in Columns 5 and 6 we explicitly test whether firms change their behavior in providing guarantees after the Notice is announced in 2005 ("Post" indicator) and include GDP growth to control for the effects of business cycles.¹³

Consistent with the results in Table 3, Table 4, Column 1 indicates that a firm has a 12.3% higher chance (we report marginal effects in this column) to provide loan guarantees if it receives at least one guarantee from another firm in the same year. In addition, the tendency to provide loan

¹³ In unreported results we also include the return of the SHSE index (in addition to GDP growth) to control for the effects of aggregate stock market conditions and the results are robust to this specification.

guarantees to other firms is likely to persist: a firm is 35.7% more likely to provide loan guarantees again if it provided guarantees in the past. From Column 2 (Column 3), the number of times (total amount) a firm provides loan guarantees for other firms is highly positively associated with the times (total amount) it has received guarantees from other firms. The coefficient in Column 4 implies that if the loan guarantees received by a firm in a given year is equal to 10% of its total assets, the firm will provide loan guarantees that equals 1.6% of its assets to other firms during the same year. All of the above coefficients in Columns 1-4 are statistically significant at the 1% level. Finally, consistent with the patterns in Figure 2, the Notice has no effect on the practice of firms providing guarantees – the Post-2005 indicator is statistically insignificant in Columns 5 and 6.

The results from all the columns of Table 4 also show that larger firms, firms with higher leverage and lower asset tangibility, and smaller ownership stakes of the largest shareholder have a greater likelihood of providing loan guarantees to other firms, and do so more frequently and in greater amount. While the fact that firms with greater financial burden are eager providers of loan guarantees should alert these firms' minority shareholders, the evidence suggests that large firms and firms in better financial conditions also provide loan guarantees—in particular, the coefficient on ROA is statistically insignificant in all the models. Overall, the results from Table 4 support the hypothesis that firms have an incentive to provide loan guarantees to other firms in exchange for receiving loan guarantees from others.

As discussed above, we observe large and complicated networks consisting of listed firms, other privately owned companies and their subsidiaries that provide loan guarantees to each other. On November 4, 2003, the *Xinjiang HOPS Co.* announced that among the guarantees of RMB 79.98 million (provided for other firms), 35.48 million was provided for its unlisted subsidiaries; it also had an additional RMB 98.79 million of guarantees that were previously undisclosed. The total amount of guarantees (RMB 178.77 million) accounted for more than 80% of its total assets and

almost three times that of its net assets, far exceeding the upper bound set by CSRC. This announcement affected many other firms. As Figure 3 illustrates, the “Xinjiang Loan Guarantee Circle” includes more than twenty companies (listed firms are indicated by thick black boxes), and at the center of the network are *HOPS* and two other firms. Shortly after its announcement, *HOPS*’ stock price fell from RMB 17 to RMB 5, and became a takeover target. CSRC fined *HOPS* and its top executives for their failure to disclose the large amount of hidden loan guarantees.

Similar loan guarantee circles formed by companies located in the same region are common across China. Through disclosure in their annual reports, listed firms within a network often state that the main motivation for joining the loan guarantee circle is to have access to more bank credit. The interconnectedness of the firms in the network also suggests that problems in one part can quickly spread to the entire network. However, the complicated structure of the networks makes it difficult, if not impossible, for the regulators to monitor the nature of each of the loan guarantees.

The next example on *Xizang Jinzhu*, a listed firm on SHSE, demonstrates the difficulty for regulators to detect controlling shareholders’ tunneling activities through (indirect) loan guarantees. The firm’s largest shareholder, *Xizang Jinzhu Group*, sold 20% of its stake to *Nanjing Changheng* and another 14.97% to *Jiangsu Zhongqiao* in 2003. Both companies are controlled by Mr. Ma Zhiping, and through these block acquisitions Mr. Ma became the largest shareholder of *Xizang Jinzhu*. In addition, Mr. Ma has an indirect ownership stake (29.01%) of *Kejian*, another listed firm, through *Nanjing Changheng* and *Jiangsu Zhongqiao*, as shown in Figure 4.

A subsidiary of *Xizang Jinzhu*, *Shenzhen Jinzhu South Trading Co. (Jinzhu South)*, acted as an agent of *Kejian* to import mobile phone parts and charged a commission fee for the service. Both *Jinzhu South* and *Kejian* incurred large losses in 2004 due to the downturn in the mobile phone industry. To alleviate *Kejian*’s financial problems, *Jinzhu South* applied for a bank loan in the amount of RMB 641.5 million, and then provided a Letter of Credit for *Kejian* in the amount of

RMB 365.64 million (reflected in *Jinzhu South*'s "other accounts receivables"). In order to secure the loan, *Jinzhu South* asked its parent company, *Xizang Jinzhu*, to provide 100% guarantee on the loan (RMB 641.5 million), which accounted for 191% of its net assets. This implies that if *Kejian* cannot repay the credit to *Jinzhu South*, *Jinzhu South* will likely default on its bank loan, in which case *Xizang Jinzhu* will be on the hook to bear the losses. Through the above chain of actions, the operating risk of *Kejian* was transferred to *Xizang Jinzhu* through loan guarantees, and the controlling shareholder of *Xiang Jinzhu*, Mr. Ma, tunneled assets through a complex channel.

In September 2003, SHSE reported the problems of *Xizang Jinzhu* to CSRC and investigated its provision of loan guarantees in June 2004. The company admitted high risks and potential losses in its practice, but refused to withdraw its financial support to *Kejian*. In October 2004, CSRC notified *Xizang Jinzhu* to 'correct' its questionable practice within two months. However, no concrete action was taken before the deadline, because the company's board and management cannot reach any agreement on the correction plan.

Summary

Given the complicated structure of loan contracts, including multiple guarantors, and the lengthy and unpredictable loan workout and restructuring process, it is difficult for third parties to differentiate a guarantor of a 'normal' loan from that of a problematic loan. Controlling shareholders can use loan guarantees to tunnel assets, while listed firms rely on loan guarantees to raise funds. Loan guarantee provision is disclosed in firms' annual report, but the cash flow consequences are not reflected in the balance sheet of the guarantor firm until the borrower defaults on the loan and the guarantor must pay to cover losses.

By contrast, the nature of asset diversion is often clear, the direction is one-sided (from the firm to the controlling shareholder), and all the transactions between the controlling shareholder and the listed firm are recorded and their effects reflected in the firm's balance sheet immediately.

Based on these comparisons, we conclude that the enforcement costs to control tunneling through asset diversion are significantly lower than those through the provision of loan guarantees. Based on the empirical tests in Table 4, we also conclude that the new rule announced in 2005 aimed at standardizing the process of providing guarantees has no impact on firms.

III. Empirical Tests on the Effects of Anti-Asset Diversion Regulation

In the previous section we describe the two new rules announced by CSRC in 2005: a) prohibiting assets diversion for non-operational purposes and returning diverted assets, and b) standardizing the practice of providing loan guarantees. We show that the enforcements cost in reining in tunneling through asset diversion are much lower than that through loan guarantee provision. The difference in enforcement costs can also explain the different approaches taken by CSRC to deal with asset diversion and loan guarantees. For asset diversion, CSRC defined what types of activities are prohibited and set a deadline for the return of all diverted assets, and imposed severe punishments for violations. The enforcement process is forceful and successful. For loan guarantees, CSRC only attempted to standardize the process through which listed firms provide guarantees without imposing any specific constraints. We also find that the new rule has no impact on the practice of providing loan guarantees. In this section we examine the effects of the new anti-diversion rule on the behaviors of controlling shareholders and firm performance.

III.1 Empirical Methodologies

We first show that the announcement of the new anti-diversion rule provides a plausibly exogenous shock to listed firms and their controlling shareholders. We check whether firms ‘anticipated’ the timing of the new rule and manipulated transactions. As discussed earlier, transactions between controlling shareholders and firms, including diverted assets, are often recorded in ‘other accounts receivables.’ As in Table 2, we use other receivables due from the

controlling (or ultimate) shareholder as a proxy for diverted assets, and plot the percentage of this variable over the total amount of other receivables, over 2003-2009, in the top panel of Figure 5.

We find no significant difference in the level of lending to large shareholders between 2004 and 2005—the year the CSRC announcement came out. There is a sharp drop, however, from 2005 to 2006 and the scale of lending remained at low levels similar to that in 2006 afterwards. These results suggest that the enforcement of the new rule was effective—diverted funds for ‘non-operational’ purposes must be returned to listed firms by the end of 2006.¹⁴ The bottom panel of Figure 5 plots the number of firms that lend to their controlling shareholders (and record such transactions in ‘other accounts receivable’) for the same period. While there is a slight drop in the number of firms from 2004 to 2005, we observe an overall steady number of firms lending to their large shareholders prior to 2005. And, the number of firms dropped significantly in 2006, and stayed low in subsequent years, consistent with the pattern observed in the top panel. These results are in sharp contrast to those in Figure 2 above, where the patterns imply that the new regulation on loan guarantees has no impact on firms’ practice of providing guarantees after 2005.

Since the timing of the anti-asset diversion rule seems to be unanticipated by listed firms, it provides the basis of our empirical tests. Following Bertrand, Duflo, and Mullainathan (2004), among others, we use the difference-in-differences method to examine the effects of this new rule on tunneling activities, investment, and firms’ operating and stock performance. If the new rule increases the cost of tunneling activities, this should lead to a decrease in asset diversion after the rule is enacted in 2005. With less tunneling and weaker control by the largest shareholder, the firm’s managers should have a stronger incentive to maximize firm value. This incentive, along with the return of diverted assets, will in turn increase firms’ investment and payout and improve its operating performance, which can also boost stock returns once the market and investors

¹⁴ Note that *not* all transactions between a listed firm and its controlling shareholder recorded in “other accounts receivables” are illegal. Hence, the figures reported in Figure 5 (and Table 2 above) should not drop to zero after 2005.

incorporate all of the above changes in incentives and performance into their valuation. Formally, we estimate the following equation:

$$\text{Firm performance (or related parties' transactions)}_{i,t} = \beta^l \text{Post} \times \text{Diversion}_{i,t} + \text{Firm controls} + \text{Fixed effects} + \varepsilon_{i,t}. \quad (t = 2003-2009) \quad (1)$$

The key explanatory variable in Eq. (1) is the interaction of indicators *Post* and *Diversion*: the indicator *Post* equals 1 if the time period is after 2005 (the year when the new rule is introduced), and 0 otherwise; *Diversion* takes on the value of 1 if a firm belongs to the treatment group of asset diversion (i.e., its controlling shareholder diverted assets from the firm in 2005), and 0 otherwise ('control group'). We also run models where we include an indicator of whether a firm provides loan guarantees in a given year.

In every regression model, we include all the (lagged) firm controls used in Table 4 above. In addition, we include an indicator on whether the firm implemented a split-share reform, in which part or all of the nontradable shares (held by the state and other legal entities) were floated to the market between 2003 and 2009 (SPLIT). We control for the (lagged) ownership stakes of the largest and top three shareholders, and whether there is a change in the identity of the largest shareholder or the CEO of the firm (in the previous year). We have a panel data set such that each firm in the sample has multiple observations over time. We include firm fixed effects to absorb all other firm-level factors (e.g., location, industry) that do *not* change over time and year fixed effects to absorb the impact of changing economic conditions. We cluster standard errors by firms. Notice that the year fixed effects absorb the direct impact of the *Post* indicator, so we only report its interaction with the diversion indicator in the tables.

III.2 Results

We first report the effects of the new regulation on the extent of asset diversion in Table 5.

We then present the results on firms' investment and payout in Table 6 and operating performance in Table 7. Finally, Table 8 presents results on stock returns.

Asset Diversion

The direct effect of the anti-asset diversion rule is to increase the costs of tunneling. As discussed above, we use two variables to proxy for the degree of asset diversion. The first is 'other accounts receivable' due from the largest shareholder, used in Table 2 and Figure 5 above, scaled by total other accounts receivable. Since controlling shareholders can tunnel assets through their affiliates and subsidiaries, we also use net cash transactions between a firm and all of its related parties (RPT), scaled by lagged assets as another measure for asset diversion.

Column 1, Table 5 indicates that relative to the control firms, the amount of other receivables due from the largest shareholder dropped by 12.4% for the 'treatment firms' after the implementation of the new rule in 2005 (significant at 1% level). This effect is robust to the inclusion of corporate governance and ownership structure variables (Column 2) and whether the firm provides loan guarantees to other firms (Column 3). The effect is also economically significant in that the magnitude of the effect is almost equivalent to a one standard deviation decrease in the dependent variable (standard deviation of this variable for the whole sample is 13.2%, as reported in Panel B, Table 1). We obtain similar results using the cash amount of RPTs as a fraction of total assets. The implementation of the anti-diversion rule led to a decrease of about 4% in the amount of RPTs (Columns 4-6, significant at 1%). Finally, whether a firm provides loan guarantees to other firms has no impact on asset diversion measured by either variable (Columns 3 and 6).

Investment and Payouts

Table 5 presents 'direct' effects of the anti-asset diversion regulation. In addition, there can be significant 'spill over' effects: with the (negative) influence of the controlling shareholder diminished and diverted funds and assets returned, firms' managers can use the returned funds for

investment projects and/or dividends. Table 6 first presents regression results on firms' investment, as measured by Capex scaled by lagged assets (by two years) and adjusted by the industry median.¹⁵ We find that stock returns have a strong positive impact on investment, while firms with more tangible assets tend to invest less. More importantly, Column 1 shows a positive effect of the anti-asset diversion rule on investment for the treatment group with the magnitude of 2.4% (significant at the 1% level). Recall from Table 1, the mean and standard deviation of investment (over assets) for the whole sample is about 7.9% and 10.6% (for the treatment group the mean is 6.1% and standard deviation 9.5%), respectively. Hence, the effect presented here is economically significant. The positive effect of the anti-asset diversion on investment is robust to the addition of ownership and governance controls (Column 2) and whether the firm provides loan guarantees to other firms (Column 3).

Table 6 also presents results on firms' payout ratio, defined as cash dividends over net income, adjusted by the industry median. Following the implementation of the anti-diversion rule in 2005, firms in the treatment group increased their payout ratio by 3.5% (Column 4, significant at 5%) relative to those in the control group. This represents an increase of more than one standard deviation—the standard deviation of the payout ratio of the whole sample is 3.2% (Table 1, Panel B), and robust to the inclusion of additional firm controls and whether the firm provides loan guarantees to other firms.

Firms' Operating Performance

Table 7 provides the regression results for the effects of the anti-diversion rule on ROA, defined as EBIT scaled by (two year) lagged assets and return on sales (ROS, EBIT scaled by two

¹⁵ In Tables 6 and 7 we use log of assets with a two-year lag as the scaling factor for the dependent variable. Because we use (one-year) lagged assets as a control, we do not use it as the scaling factor (for the dependent variable) to avoid obtaining a mechanical relationship. Our results in both tables are robust to the alternative specifications in which we use: 1) assets with a one-year lag to scale the dependent variable and assets with a two-year lag as the control variable, and 2) the dependent variable is scaled by one-year lagged assets and the size control variable is the log of average assets in years t-2 and t-3.

year lagged sales); both variables are adjusted by the industry median. From Columns 1-3, firms affected by asset diversion showed an increase of 2.2% to 2.6% in ROA relative to firms in the control group and after the anti-asset diversion rule is announced in 2005 (significant at the 1% level). From Table 1, Panel B, the mean and standard deviation of ROA for the whole sample are 7% and 13%, respectively; hence, this positive effect is also economically significant. We find a similar, positive impact of the new rule on ROS (Columns 4-6). In addition to using ROA and ROS to measure firms' operating performance, we also use return on equity (ROE) and earnings per share (EPS). For each of these two variables, we again find a positive and significant impact of the anti-asset diversion regulation on the treatment group firms after 2005, the year during which the new regulation was implemented. To save space we do not report these results.

Additional Tests and Robustness Checks

Table 8 reports the cumulative abnormal returns (CARs), calculated as the difference between the raw return and the expected return based on a market model, for firms affected by the regulation of asset diversion around its announcement date (2005). For the full sample, CARs of the treatment group are higher over (different windows of) the horizon of 8 months prior to the announcement date to 12 months post announcement, and the difference is significant at the 1% level. The results on the comparisons are robust to dropping firms that also issue H shares (listed in the Hong Kong Stock Exchange) or ST shares. We conclude that the reaction of the stock market (A share market in mainland China) is consistent with the hypotheses that the regulation on asset diversion had a positive impact on firms.

From the summary statistics in Table 1 we observe the treatment and control groups have differences in some dimensions of firm characteristics. This might lead to biases (overestimation) in the effect of regulations on firm performance (e.g., ROA). To correct for this potential problem, we use the matching method of propensity score (Abadie and Imbens, 2011) to find the control group

firms. First, we calculate the changes in ROA for the two groups when the regulations were announced in 2005—that is, the difference between the average firm performance for the years 2006–2007 and that for years 2003–2005. Second, we calculate the difference of average firm performance between the two groups. Third, we calculate the propensity scores for matching firms. We select one firm from the treatment group and 2-4 firms from the control group; these firms have the closest characteristics and belong to the same industry. Using the matching procedure and with different number of matching firms (from the control group) and matching variables, we continue arrive at a similar conclusion that the anti-asset diversion rule has a positive impact on treatment firms' investment and operating performance. These results are not reported to save space.

Another potential problem with our results is that the regulation announced in 2005 only has an effect on firms' current performance, but has no effect on firms' corporate governance and does not affect firms' future performance. All of our main results are robust to dropping the 2005 data. Finally, the ST firms (bankrupt firms) have poor performance and their corporate governance is relatively weak. Since firms with H-Shares are listed in Hong Kong (outside mainland China), they must satisfy a somewhat different set of regulatory requirements and subject to monitoring by international investors. We remove firms with either special treatment (ST) or H-shares, and rerun the above regressions and continue to obtain similar results.

IV. Conclusion

In this paper, we examine how regulators tackle two types of widespread tunneling activities in China. Controlling shareholders can divert assets from listed firms or force firms to serve as guarantors on questionable loans. In an environment characterized by underdeveloped and ineffective formal institutions, arguably the only effective way to restrain tunneling is through laws and regulations along with a strong enforcement process. To this end, the government announced

and enacted two distinct laws dealing with these two types of tunneling activities in 2005.

The first law prohibits asset diversion from listed firms for ‘non-operational’ purposes, and all controlling shareholders must repay diverted assets by the end of 2006, or face legal penalties including imprisonment. The enforcement process is forceful and transparent, and most of the diverted assets were returned by the end of 2006. The second law standardizes the practice of listed firms providing loan guarantees, but it does not provide any specific guidelines on the implementation process or set any restrictions on any aspect of loan guarantees. We find that firms complying with the first law experience a reduction in related party transactions, an increase in investment and dividend, and significantly better performance as compared to firms not affected by the law. The second law, however, does not change firms’ practice of providing loan guarantees and has no impact on firm performance.

We attribute the difference in how the regulators deal with the two types of tunneling activities and the effects of these rules on firms to *enforcement costs*: it is much easier for regulators to keep track of diversion of assets from a listed firm by a large shareholder than to monitor and verify the role of a particular guarantor in a loan agreement that typically involves many parties. Given the complicated nature and large costs in verifying tunneling vs. normal business transactions, regulators’ management of loan guarantee provision—or lack thereof—is reasonable. The law and strong enforcement process targeting the most egregious forms of asset diversions (for ‘non-operational’ purposes), on the other hand, are effective in stopping this form of asset diversion and reduces the incentive of controlling shareholders to tunnel. Restraining the power of controlling shareholder in turn increases the incentive of managers to create value for all shareholders through investment, growth and payouts. Our results extend the literature on law, institutions and finance by providing direct evidence that *enforceability* matters: laws and regulations that can be enforced at lower costs are more effective in practice, especially in countries with weak (formal) institutions.

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Appendix A: Explanations of Variables

We collect firm-level data from the China Stock Market and Accounting Research (CSMAR, included in WRDS) database, and the WIND Information Company (WIND).

Variables	Explanation	Database
<i>Dependent variables</i>		
Return on assets (ROA)	Earnings before interests and taxes (EBIT), divided by lagged book value of total assets	CSMAR
Return on sales (ROS)	Earnings before interests and taxes (EBIT), divided by lagged sales	CSMAR
Return on equity (ROE)	Net income scaled by lagged book value of equity	CSMAR
Earnings per share (EPS)	Net income scaled by total number of shares	CSMAR
Investment	Capital expenditure over lagged book value of total assets	CSMAR
Payout ratio	Total dividend scaled by net income	CSMAR
Related-party transaction (RPT) Ratio	Net cash transactions between a firm and all of its related parties (RPT), scaled by lagged assets	CSMAR
<i>Explanatory variables</i>		
Post*Diversion	The ‘Post’ indicator equals 1 if the time period is after 2005 (the year when the new rule is introduced), and 0 otherwise; Diversion takes on the value of 1 if a firm belongs to the treatment group of asset diversion (i.e., its controlling shareholder diverted assets from the firm in 2005), and 0 otherwise (‘control group’)	Manually collected from annual reports
Guarantee indicator	Guarantee indicator equals 1 if a firm has outstanding loan guarantees for its controlling shareholders and/or other related parties in a given year, and 0 otherwise	WIND
<i>Control variables</i>		
Log(assets)	Logarithm of the book value of total assets	CSMAR
Tangibility	Property, Plant and Equipment (PPE) over assets	CSMAR
Leverage	Ratio of book value of total liabilities to book value of total assets	CSMAR
Split	Equals 1 if the share split reform occurred during the sample period, otherwise 0	CSMAR
Gov	Equals 1 if the firm is majority-owned by the state and 0 otherwise	CSMAR
ST	Equals 1 if the firm has “Special Treatment” (or bankruptcy) status and 0 otherwise	CSMAR
Annual stock return (%)	Annual stock return during the sample period	CSMAR
CEO turnover	Equals 1 if the CEO is replaced in a given year, and 0 otherwise	CSMAR
Change in largest SH	Equals 1 if the largest shareholder is different from the previous year, and 0 otherwise	CSMAR
Ownership (largest SH)	The ownership stake of the largest shareholder	CSMAR
Ownership (largest 3 SHs)	The ownership stake of the largest three large shareholders	CSMAR
<i>Others</i>		
Ratio of other accounts receivables	Percentage of other receivables due from the controlling shareholder over total amount of other receivables	WIND
Ratio of other accounts payables	Percentage of other payables to the controlling shareholder over total amount of other payables	CSMAR
CARs	Cumulative abnormal returns; or the difference between the raw return and the expected return based on a market model	WIND

Table 1 Summary Statistics (2003-2009)

The table reports firm characteristics after sorting firms into treatment and control groups. Firms in the “Asset diversion” (treatment) group had their assets diverted by their controlling shareholders in 2005. Panel A presents industry distributions of different groups. Panel B compares firm characteristics between the “Asset diversion” group and its control group. Data on asset diversion by controlling shareholders is manually collected from firms’ annual reports; the information on loan guarantees and stock prices are obtained from WIND; and other financial variables are obtained from the CSMAR database. ROA is EBIT divided by lagged book value of total assets; ROS is defined as EBIT divided by lagged sales; ROE is net income scaled by lagged book value of equity; EPS is net income scaled by total number of shares; Investment is Capital expenditure over lagged book value of total assets; Payout ratio is total dividend scaled by net income; Assets is book value of total assets; Tangibility is Property, Plant and Equipment over assets; Leverage is the ratio of book value of total liabilities to book value of total assets; CEO turnover equals 1 if the CEO is replaced and 0 otherwise; Change in largest SH equals 1 if the largest shareholder is different from the previous year, and 0 otherwise; RPT ratio is net cash transactions between a firm and all of its related parties (RPT), scaled by lagged assets; Ratio of other receivables is percentage of other receivables due from the controlling (or ultimate) shareholder over total amount of other receivables; ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Panel A: Industry Classifications							
	Full Samples				Asset diversion		
Agriculture	24 (1.97%)				13 (3.18%)		
Conglomerate	87 (7.15%)				32(7.82%)		
Housing	23 (1.89%)				8 (1.96%)		
Information technology	82 (6.74%)				31 (7.58%)		
Manufacturing	753 (61.87%)				261 (63.81%)		
Real estate	61 (5.01%)				17 (4.16%)		
Services & Culture	51 (4.19%)				15 (3.67%)		
Trade	86 (7.07%)				19 (4.65%)		
Transportation	50 (4.11%)				13 (3.18%)		
Total	1,217				409		

Panel B: Diversion of Assets							
	Full Samples		Treatment Group		Control Group		Difference In Means
	Mean	Std	Mean	Std	Mean	Std	
ROA	0.070	0.131	0.049	0.158	0.082	0.113	-0.033***
ROS	0.194	0.759	0.192	1.096	0.194	0.506	-0.002
ROE	0.023	0.296	-0.029	0.399	0.048	0.227	-0.077***
EPS	0.160	0.430	0.029	0.460	0.227	0.397	-0.198***
Investment	0.079	0.106	0.061	0.095	0.088	0.110	-0.027***
Payout ratio	0.210	0.320	0.126	0.278	0.253	0.331	-0.127***
Leverage	0.567	0.425	0.674	0.575	0.526	0.309	0.148***
Assets (RMB million)	3,854	7,153	2,536	3,900	4,533	8,268	-1,977***
Tangibility	0.299	0.188	0.291	0.179	0.303	0.192	-0.012***
Annual stock return (%)	0.509	1.136	0.488	1.149	0.520	1.129	-0.032
CEO turnover	0.233	0.423	0.276	0.447	0.210	0.408	0.066***
Change in largest SH	0.035	0.184	0.044	0.205	0.030	0.172	0.014***
RPT ratio	0.082	0.173	0.126	0.229	0.060	0.129	0.066***
Ratio of other receivables	0.036	0.132	0.076	0.192	0.015	0.078	0.061***
Gov	0.697	0.460	0.657	0.475	0.718	0.450	-0.061***
Number of firms	1,217		409		808		
Number of Obs	8,313		2,829		5,484		

Table 2 Financial Transactions between Listed Firms and Their Controlling Shareholders

The table reports the summary statistics of other accounts receivables and other accounts payables between listed firms and large shareholders (and their affiliates) from 2003 to 2009. The data of other receivables and other payables is obtained from the WIND and the CSMAR database, respectively. We define the ratio of other receivables (other payables) as the percentage of other receivables (other payables) due from (to) the controlling shareholder over total amount of other receivables (other payables).

Panel A: Other Receivables <i>due from</i> the Largest Shareholder						
Year	Amount in RMB millions				Ratio	
	# of firms	Total	Mean	Median	Mean	Median
2003	370	18,250.02	49.32	9.86	0.26	0.12
2004	369	21,712.55	58.84	9.03	0.23	0.10
2005	321	22,527.76	70.18	6.70	0.23	0.10
2006	137	6,654.22	48.57	1.91	0.13	0.03
2007	129	5,777.18	44.78	1.91	0.12	0.02
2008	59	864.36	14.65	3.05	0.12	0.04
2009	86	1,183.54	13.76	0.96	0.13	0.02

Panel B: Other Payables <i>to</i> the Largest Shareholder						
Year	Amount in RMB millions				Ratio	
	# of firms	Total	Mean	Median	Mean	Median
2003	2	5.50	2.75	2.75	0.03	0.03
2004	43	1,583.68	36.83	6.00	0.20	0.10
2005	16	296.73	18.55	6.96	0.13	0.06
2006	22	677.79	30.81	11.06	0.19	0.12
2007	6	259.13	43.19	5.11	0.16	0.10
2008	36	5,983.68	166.21	22.21	0.32	0.15
2009	12	1,567.77	130.65	23.26	0.25	0.12

Table 3 Summary Statistics on Loan Guarantees

The table reports the summary statistics of listed firms providing and receiving loan guarantees from 2003 to 2009. Listed firms do not directly provide guarantees to their large shareholders due to the CSRC rule enacted in 2000; instead, loan guarantee circles are formed through which listed firms can provide guarantees to their shareholders indirectly. Hence, we use loan guarantees to and from *all other entities* (listed firms and/or nonlisted firms and entities) to measure the scale of loan guarantees. The data is obtained from the CSMAR database. Panel A presents the distribution of the number of firms and the amount of *providing* loan guarantees. Panel B presents the distribution of the number of firms and the amount of *receiving* loan guarantees.

Panel A: Providing Loan Guarantees								
Year	NO.	<i>To</i> how many firms			Total Amount for each FIRM (RMB millions)			
		mean	median	max	mean	median	min	max
2003	203	4.57	2	31	133.58	67.48	0.50	590.00
2004	281	6.01	2	130	171.31	63.42	0.06	1,015.00
2005	288	6.55	3	137	214.47	87.39	0.20	1,234.43
2006	289	6.50	3	275	211.26	103.50	0.10	1,066.45
2007	324	6.55	3	89	291.61	110.00	0.03	1,996.69
2008	512	6.27	3	79	429.68	180.00	0.15	3,115.00
2009	571	7.13	4	81	584.18	230.00	0.01	4,122.62

Panel B: Receiving Loan Guarantees								
year	NO.	<i>From</i> how many firms			Total Amount for each FIRM (RMB millions)			
		mean	median	max	mean	median	min	max
2003	302	2.73	2	41	272.49	163.64	0.04	1,297.00
2004	462	3.02	2	43	339.07	200.00	0.03	1,850.00
2005	535	3.86	2	55	366.48	201.25	0.03	2,163.00
2006	492	4.03	2	54	411.54	200.90	0.08	2,858.97
2007	496	4.13	2	46	433.14	198.38	0.02	2,777.18
2008	540	4.60	2	88	501.36	200.00	0.07	3,720.59
2009	496	6.56	3	105	630.40	262.50	0.01	4,158.00

Table 4 Determinants of Loan Guarantee Provision

The table reports the determinants of listed firms providing loan guarantees for other firms and entities. The data is obtained from CSMAR. We report marginal probabilities in Column 1 and 5 (Logit), and we run Tobit models in the other columns to control for possible censored data issues. The indicator ‘Receiving’ denotes whether a listed firm receives loan guarantee in year t ; $\log(\text{times received})$ and $\log(\text{amount received})$ denote the log of times and the amount of loan guarantees the firm receives in year t ; $\text{Receiving}/\text{assets}$ is the ratio of loan guarantees received in year t to total assets in year $t-1$; $\text{Receiving (past years)}$ and $\text{Providing (past years)}$ denotes whether the firm received and provided loan guarantee in past years (starting in 2003). All the control variables are lagged ($t-1$) and their definitions are provided in Appendix A. Location (province) and industry fixed effects are included in all the models; and year fixed effects are included Columns 1-4. In Columns 5 and 6, the “Post” indicator takes on the value of 1 if the year is 2005 or later. The numbers in the brackets are standard errors. ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively.

	Provide guarantee or not?	Log(# of times of guarantee)	Log (amt guarantee provided)	Amount guarantee /Total assets	Provide guarantee or not?	Log (amt of guarantee provided)
	Logit	Tobit	Tobit	Tobit	Logit	Tobit
	(1)	(2)	(3)	(4)	(5)	(6)
Receiving _{t}	0.123*** (0.013)	-	-	-	0.125*** (0.013)	-
$\log(\text{times received})_t$	-	0.433*** (0.036)	-	-	-	-
$\log(\text{amount received})_t$	-	-	0.335*** (0.034)	-	-	0.340*** (0.034)
Receiving _{t} /assets _{$t-1$}	-	-	-	0.161*** (0.023)	-	-
Receiving (past years)	0.022 (0.013)	1.314*** (0.475)	1.350* (0.719)	0.034*** (0.007)	0.014 (0.013)	0.949 (0.704)
Providing (past years)	0.357*** (0.013)	11.96*** (0.477)	20.40*** (0.995)	0.160*** (0.007)	0.350*** (0.013)	17.88*** (0.654)
ROA	-0.028 (0.036)	-0.929 (1.335)	-0.999 (1.840)	-0.004 (0.018)	-0.021 (0.037)	-0.702 (1.849)
$\log(\text{assets})$	0.055*** (0.006)	2.705*** (0.224)	3.106*** (0.309)	0.021*** (0.003)	0.053*** (0.006)	3.025*** (0.309)
Tangibility	-0.091*** (0.033)	-1.692 (1.270)	-4.792*** (1.751)	-0.036** (0.017)	-0.088*** (0.033)	-4.704*** (1.757)
Leverage	0.046*** (0.015)	3.152*** (0.575)	2.797*** (0.812)	0.051*** (0.007)	0.044*** (0.015)	2.704*** (0.815)
Gov	0.011 (0.012)	0.163 (0.470)	0.591 (0.651)	-0.011* (0.006)	0.012 (0.012)	0.687 (0.651)
ST	-0.035* (0.018)	-1.012 (0.756)	-2.476** (1.049)	-0.027*** (0.010)	-0.034* (0.018)	-2.416** (1.052)
Annual stock return	0.002 (0.008)	-0.054 (0.294)	-0.001 (0.406)	0.002 (0.004)	0.007 (0.005)	0.398 (0.255)
Ownership (largest)	-0.198*** (0.036)	-8.354*** (1.369)	-10.94*** (1.89)	-0.101*** (0.019)	-0.200*** (0.036)	-11.16*** (1.89)
Post	-	-	-	-	0.001 (0.013)	0.415 (0.690)
GDP Growth	-	-	-	-	-0.032*** (0.003)	-1.693*** (0.167)
Location FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No
Pseudo R ²	0.195	0.073	0.072	0.387	0.192	0.071
# of obs	8,254	8,254	8,254	8,254	8,254	8,254

Table 5 Effects of Anti-Asset Diversion Regulation on Tunneling Activities

The table reports the direct effects of the new regulations ('Notice') on asset diversion. The dependent variable is the *ratio of other receivables*, defined as percentage of other receivables due from the controlling shareholder over total amount of other receivables (Columns 1-3) and *RPT Ratio*, defined as net cash transactions between a firm and all of its related parties (RPT), scaled by lagged assets (Columns 4-6). The explanatory variables include *Post*Diversion* and *Guarantee indicator*, where *Post* equals 1 if the time period is after 2005 (the year when the new rule is introduced), and 0 otherwise; *Diversion* takes on the value of 1 if a firm belongs to the treatment group of asset diversion (i.e., its controlling shareholder diverted assets from the firm in 2005), and 0 otherwise (control group); *Guarantee Dummy* takes on the value of 1 if the firm has outstanding loan guarantees for its controlling shareholders and/or other related parties in a given year, and 0 otherwise. All the control variables are lagged (t-1) and their definitions are provided in Appendix A. Firm and year fixed effects are included in all the models. The numbers in the brackets are standard errors adjusted for sample clustering at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% levels.

	Ratio of other receivables			RPT ratio		
	(1)	(2)	(3)	(4)	(5)	(6)
Post*Diversion	-0.124*** (0.013)	-0.125*** (0.013)	-0.125*** (0.013)	-0.038*** (0.009)	-0.039*** (0.009)	-0.039*** (0.009)
Guarantee indicator	- -	- -	-0.008 (0.005)	- -	- -	-0.001 (0.005)
log(assets)	0.010* (0.006)	0.010* (0.006)	0.011** (0.006)	-0.026*** (0.006)	-0.024*** (0.006)	-0.024*** (0.006)
Tangibility	-0.024 (0.020)	-0.022 (0.020)	-0.022 (0.020)	-0.024 (0.024)	-0.025 (0.024)	-0.025 (0.024)
Leverage	0.009 (0.008)	0.007 (0.008)	0.007 (0.008)	0.153*** (0.020)	0.147*** (0.020)	0.148*** (0.020)
Gov	0.013 (0.011)	0.011 (0.011)	0.011 (0.011)	0.017 (0.011)	0.015 (0.011)	0.015 (0.011)
ST	0.004 (0.008)	0.004 (0.008)	0.004 (0.008)	0.018 (0.012)	0.019 (0.012)	0.019 (0.012)
Annual stock return	-0.005*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)	-0.003 (0.003)	-0.002 (0.003)	-0.002 (0.003)
CEO turnover	- -	-0.002 (0.003)	-0.002 (0.003)	- -	0.001 (0.004)	0.001 (0.004)
Change in largest SH	- -	-0.002 (0.008)	-0.002 (0.008)	- -	-0.007 (0.010)	-0.007 (0.010)
Ownership (largest)	- -	0.141*** (0.045)	0.140*** (0.045)	- -	0.000 (0.037)	0.000 (0.037)
Ownership (first three)	- -	-0.048 (0.047)	-0.049 (0.047)	- -	-0.005 (0.043)	-0.005 (0.043)
Split	- -	-0.024*** (0.008)	-0.025*** (0.008)	- -	-0.045*** (0.011)	-0.045*** (0.012)
Firm fixed effect	Y	Y	Y	Y	Y	Y
Year fixed effect	Y	Y	Y	Y	Y	Y
R ²	0.422	0.426	0.426	0.623	0.626	0.626
Adj R ²	0.323	0.327	0.327	0.559	0.562	0.561
Number of obs	8,235	8,235	8,235	8,235	8,235	8,235

Table 6 Effects of Anti-Asset Diversion Regulation on Investment and Payout

The table reports the effects of new regulations on investment. The dependent variables are the *investment*, defined as capital expenditure over lagged (t-1) book value of total assets, and the *payout ratio*, defined as total dividend scaled by net income; both dependent variables are adjusted by the industry median. The explanatory variables include *Post*Diversion* and Guarantee indicator, where *Post* equals 1 if the time period is after 2005 (the year when the new rule is introduced), and 0 otherwise; *Diversion* takes on the value of 1 if a firm belongs to the treatment group of asset diversion (i.e., its controlling shareholder diverted assets from the firm in 2005), and 0 otherwise (control group); *Guarantee Dummy* takes on the value of 1 if the firm has outstanding loan guarantees for its controlling shareholders and/or other related parties in a given year, and 0 otherwise. All the control variables are lagged one year except for log(assets) (assets are lagged by two years). Firm and year fixed effects are included in all the models. The numbers in the brackets are standard errors adjusted for sample clustering at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively.

	Investment			Payout ratio		
	(1)	(2)	(3)	(4)	(5)	(6)
Post*Diversion	0.024*** (0.006)	0.023*** (0.006)	0.023*** (0.006)	0.035** (0.015)	0.034** (0.015)	0.034** (0.015)
Guarantee indicator	- (0.003)	- (0.003)	0.002 (0.003)	- (0.011)	- (0.011)	-0.006 (0.011)
log(assets)	-0.004 (0.005)	-0.007 (0.005)	-0.007 (0.005)	-0.006 (0.010)	-0.009 (0.010)	-0.008 (0.010)
Tangibility	-0.160*** (0.020)	-0.157*** (0.020)	-0.157*** (0.020)	0.014 (0.040)	0.019 (0.040)	0.018 (0.040)
Leverage	-0.013* (0.007)	-0.012* (0.007)	-0.012* (0.006)	-0.025** (0.010)	-0.023** (0.010)	-0.022** (0.010)
Gov	-0.002 (0.006)	-0.001 (0.006)	-0.001 (0.006)	-0.011 (0.015)	-0.010 (0.015)	-0.010 (0.015)
ST	-0.012*** (0.004)	-0.012*** (0.004)	-0.012*** (0.004)	-0.029*** (0.007)	-0.029*** (0.008)	-0.029*** (0.008)
Annual stock return	0.012*** (0.003)	0.012*** (0.003)	0.012*** (0.003)	-0.004 (0.004)	-0.005 (0.004)	-0.005 (0.004)
CEO turnover	- (0.003)	-0.002 (0.003)	-0.002 (0.003)	- (0.008)	-0.007 (0.008)	-0.007 (0.008)
Change in largest SH	- (0.007)	0.002 (0.007)	0.002 (0.007)	- (0.018)	0.012 (0.018)	0.012 (0.018)
Ownership (largest)	- (0.033)	-0.019 (0.033)	-0.019 (0.033)	- (0.083)	0.073 (0.083)	0.072 (0.083)
Ownership (first three)	- (0.039)	0.119*** (0.039)	0.119*** (0.039)	- (0.100)	0.076 (0.100)	0.075 (0.100)
Split	- (0.005)	0.011** (0.005)	0.011** (0.005)	- (0.014)	0.018 (0.014)	0.017 (0.014)
Firm fixed effect	Y	Y	Y	Y	Y	Y
Year fixed effect	Y	Y	Y	Y	Y	Y
R ²	0.443	0.446	0.446	0.460	0.461	0.461
Adj R ²	0.347	0.350	0.350	0.367	0.368	0.368
Number of obs	8,207	8,207	8,207	8,207	8,207	8,207

Table 7 Effects of Anti-Asset Diversion Regulation on Operating Performance

The table reports the effects of new regulations on listed firms' operating performance. The dependent variables are *ROA* and *ROS*, where *ROA* is defined as EBIT divided by lagged book value of total assets; *ROS* is defined as EBIT divided by lagged sales; both dependent variables are adjusted by the industry median. The explanatory variables include *Post*Diversion* and Guarantee indicator, where *Post* equals 1 if the time period is after 2005 (the year when the new rule is introduced), and 0 otherwise; *Diversion* takes on the value of 1 if a firm belongs to the treatment group of asset diversion (i.e., its controlling shareholder diverted assets from the firm in 2005), and 0 otherwise (control group); *Guarantee Dummy* takes on the value of 1 if the firm has outstanding loan guarantees for its controlling shareholders and/or other related parties in a given year, and 0 otherwise. All the control variables are lagged by one year except for log(assets) (assets are lagged by two years). Firm and year fixed effects are included in all the models. The numbers in the brackets are standard errors adjusted for sample clustering at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively.

	ROA			ROS		
	(1)	(2)	(3)	(4)	(5)	(6)
Post*Diversion	0.026*** (0.008)	0.022*** (0.007)	0.022*** (0.007)	0.166*** (0.055)	0.142*** (0.049)	0.143*** (0.049)
Guarantee indicator	- (0.007)	- (0.006)	-0.011*** (0.004)	- (0.062)	- (0.057)	-0.038 (0.056)
log(assets)	-0.018*** (0.007)	-0.025*** (0.006)	-0.023*** (0.006)	-0.071 (0.128)	-0.120** (0.122)	-0.114** (0.122)
Tangibility	-0.021 (0.022)	-0.011 (0.020)	-0.011 (0.021)	-0.100 (0.135)	-0.041 (0.132)	-0.042 (0.133)
Leverage	0.100*** (0.017)	0.102*** (0.016)	0.103*** (0.016)	0.490*** (0.135)	0.511*** (0.132)	0.514*** (0.133)
Gov	-0.009 (0.012)	-0.007 (0.012)	-0.007 (0.012)	-0.040 (0.094)	-0.028 (0.091)	-0.028 (0.090)
ST	0.010 (0.009)	0.007 (0.009)	0.007 (0.009)	0.099 (0.066)	0.093 (0.065)	0.093 (0.065)
Annual stock return	0.025*** (0.004)	0.024*** (0.004)	0.024*** (0.004)	0.143*** (0.034)	0.138*** (0.033)	0.137*** (0.033)
CEO turnover	- (0.003)	0.006* (0.003)	0.006* (0.003)	- (0.023)	0.032 (0.023)	0.033 (0.023)
Change in largest SH	- (0.012)	0.030*** (0.012)	0.030*** (0.012)	- (0.058)	0.043 (0.058)	0.043 (0.058)
Ownership (largest)	- (0.043)	0.066 (0.043)	0.064 (0.043)	- (0.358)	0.391 (0.358)	0.384 (0.361)
Ownership (first three)	- (0.048)	0.251*** (0.048)	0.251*** (0.048)	- (0.447)	1.566*** (0.447)	1.566*** (0.446)
Split	- (0.007)	0.017** (0.007)	0.017** (0.007)	- (0.048)	0.105** (0.048)	0.105** (0.048)
Firm fixed effect	Y	Y	Y	Y	Y	Y
Year fixed effect	Y	Y	Y	Y	Y	Y
R ²	0.392	0.411	0.412	0.252	0.273	0.274
Adj R ²	0.288	0.310	0.311	0.124	0.148	0.148
Number of obs	8,236	8,236	8,236	8,236	8,236	8,236

Table 8 Anti-Asset Diversion Regulation and Cumulative Abnormal Returns

The table reports the *average cumulative abnormal returns (CARs)* for various windows; CAR for a stock is calculated as the difference between its raw return and the expected return based on a market model. The table presents CARs for firms affected by the regulation of asset diversion around its announcement date. The announcement of regulations of asset diversion occurred in June 2005, and the CARs are calculated from m months (negative) before and n months (positive) after the announcement. The new regulations were to be executed by December 2005, which corresponds to 6 months after the initial announcement. ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively.

	Treatment (1)	Control (2)	(1)-(2)
Full Samples			
[0, 8]	0.026	-0.046	0.072 ***
[0, 12]	0.075	-0.028	0.103 ***
[-8, 12]	0.068	-0.011	0.078 ***
Excluding firms with H shares			
[0, 8]	0.026	-0.041	0.067 ***
[0, 12]	0.077	-0.017	0.095 ***
[-8, 12]	0.069	-0.005	0.074 ***
Excluding firms with ST status			
[0, 8]	-0.019	-0.062	0.043 *
[0, 12]	0.037	-0.051	0.088 **
[-8, 12]	0.063	-0.019	0.082 ***

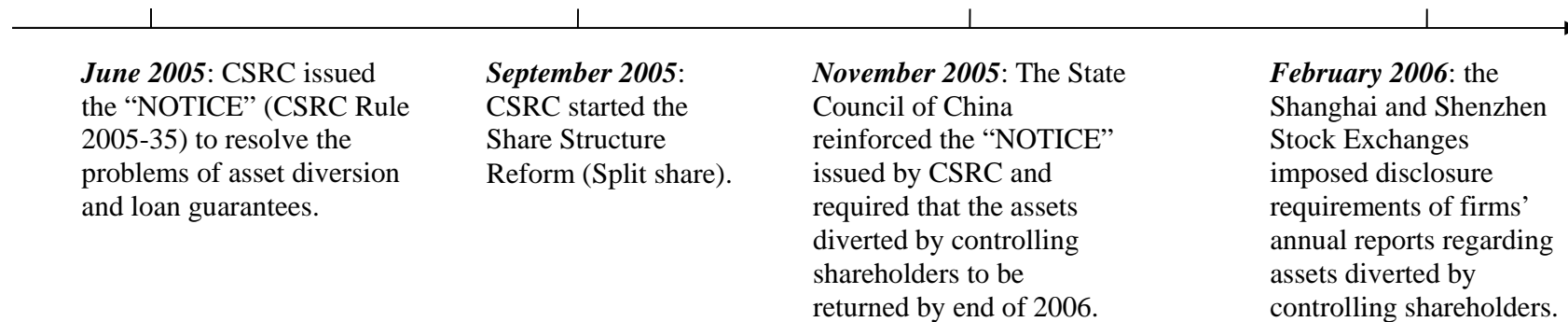


Figure 1 Timeline of Main Events

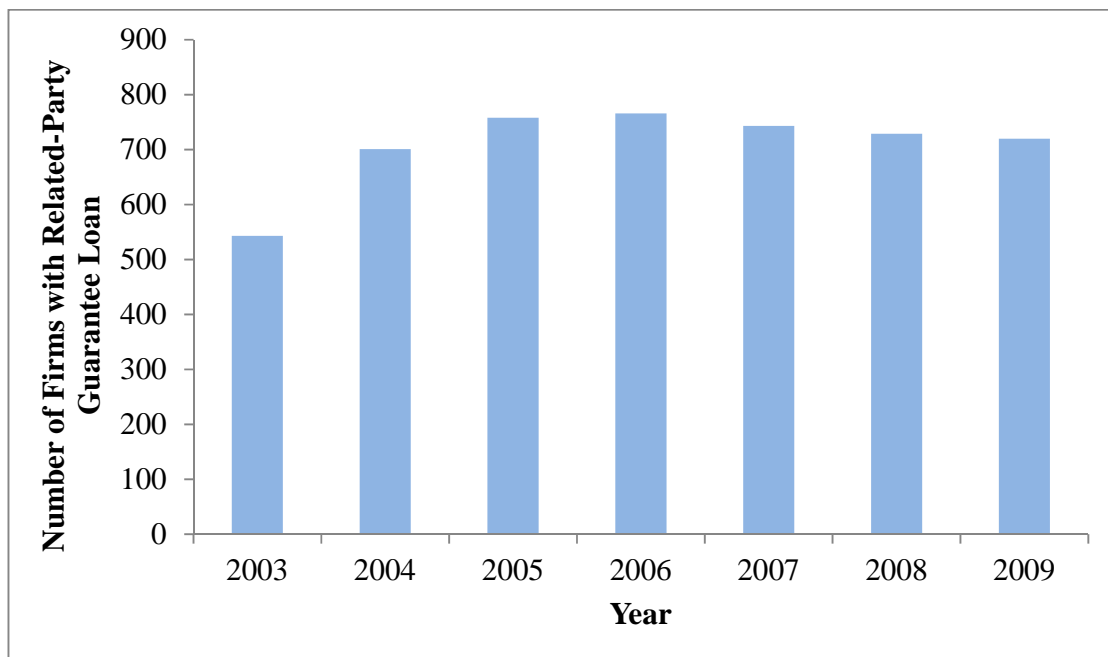
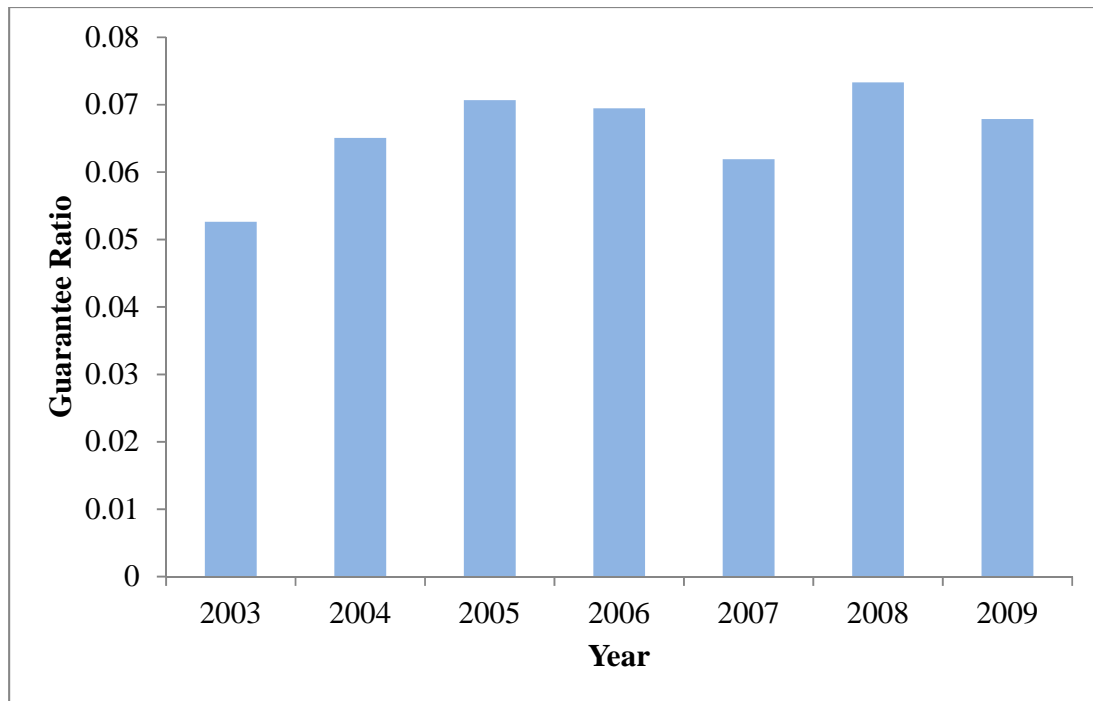


Figure 2 The top panel plots the scale of loan guarantees, defined as the ratio of the total amount of assets pledged through loan guarantees to all the related parties of the firms over total assets. The bottom panel plots the number of firms providing loan guarantees to their related parties. The information of loan guarantees is manually collected from the WIND database.

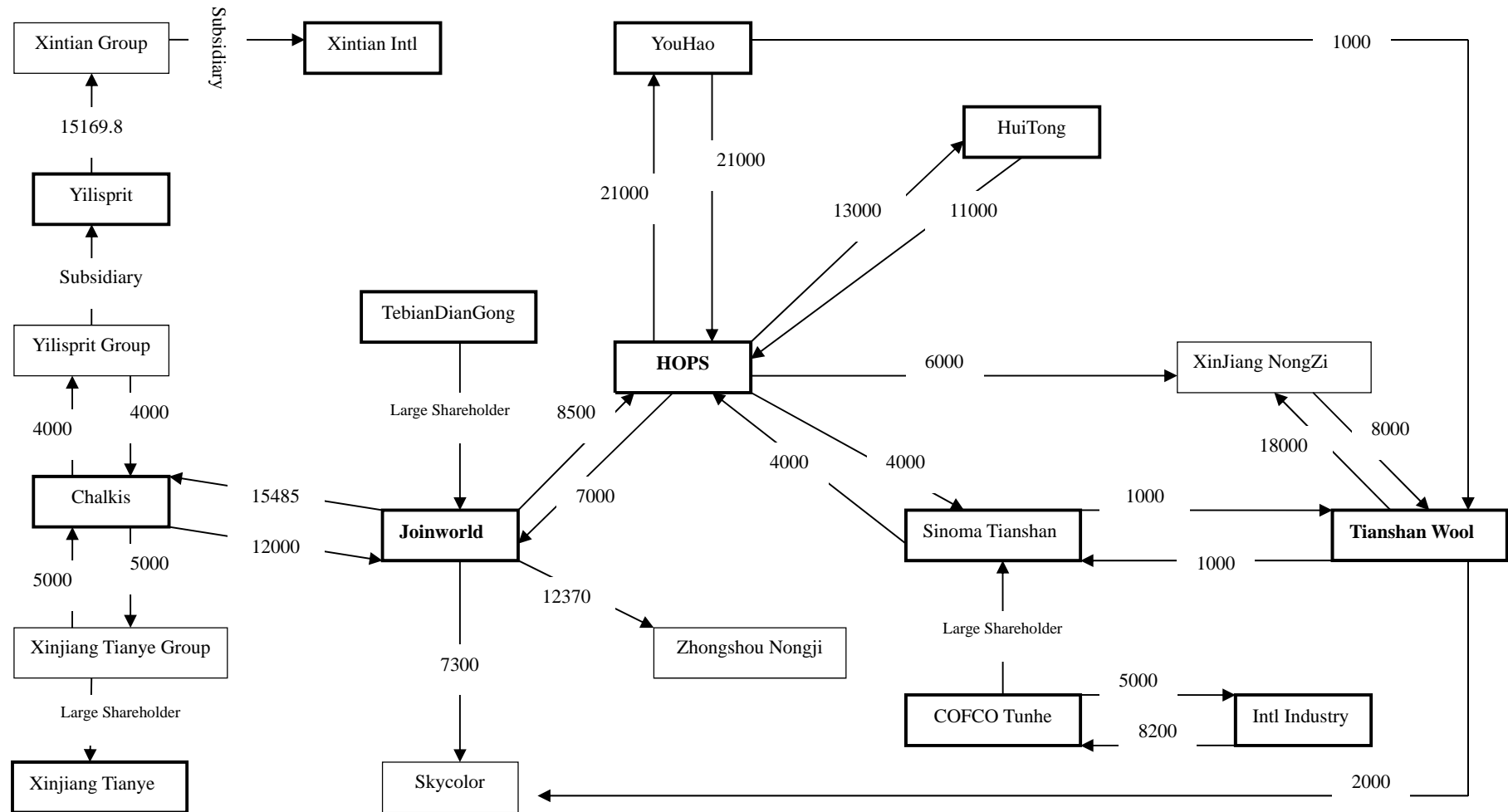


Figure 3 Xinjiang Loan Guarantee Circle (as of Sep. 30, 2009; amount in RMB millions). The above figure shows the networks of listed firms and other (privately owned) companies and subsidiaries that provide loan guarantees for each other in Xinjiang Province, China. The entire “Circle” includes more than twenty companies and at the center of the network are *HOPS*, *Joinworld*, and *Tianshan Wool*. Listed firms are shown in thick-bordered boxes, and the arrow denotes the loan guarantees between two firms.

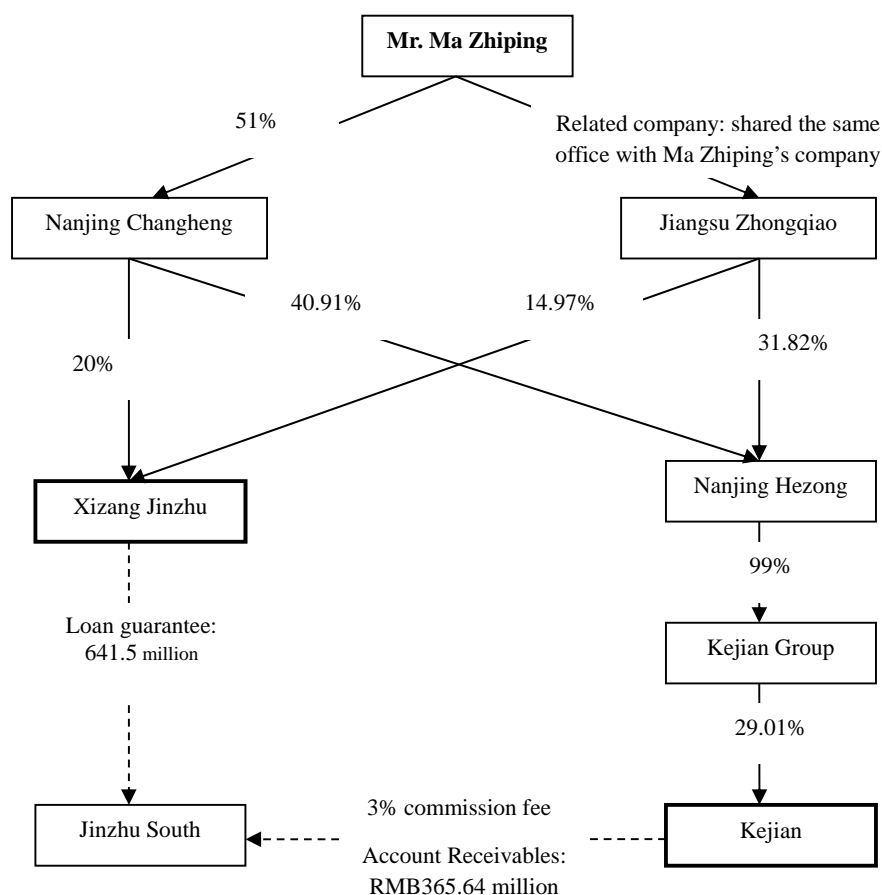


Figure 4 Chain of Activities of Mr. Ma Zhiping and Xizang Jinzhu. The above figure demonstrates how controlling shareholders (e.g., Mr. Ma Zhiping, the controlling shareholder of *Xizang Jinzhu*) can tunnel assets through complex channels and thus shift the operating risks of *Kejian* to the listed firm *Xizang Jinzhu* through loan guarantees. Although regulators realized the potential risks in the loan guarantees provided by *Xizang Jinzhu*, it is difficult for them to stop such activities because providing loan guarantees is one of the normal business and operating activities of listed firms. The listed firms are shown in thick-bordered boxes. Shareholding is denoted by thick lines and loan guarantees and related businesses are denoted by dotted lines.

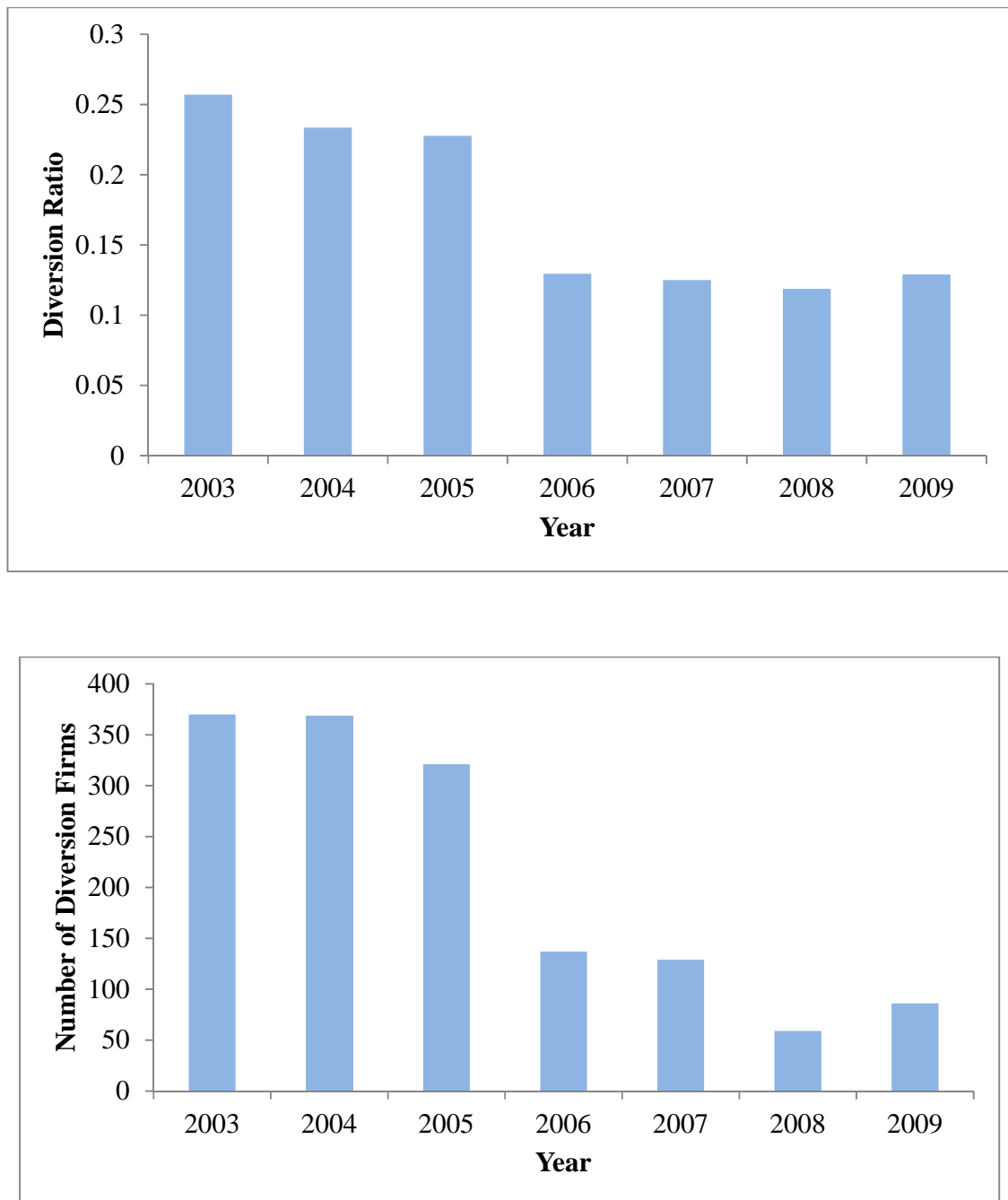


Figure 5 The top (bottom) panel plots the patterns of asset diversion ratio (the number of firms whose assets were diverted by their controlling shareholders) during the period of 2003-2009. We use other accounts receivables *due from* the controlling shareholder as a proxy for diverted assets, and diversion ratio in the top panel is the percentage of this variable over the total amount of other receivables in the same year. Note that *not* all transactions between a listed firm and its controlling shareholder recorded in “other accounts receivables” are illegal. Hence, the figures reported in both panels should not drop to zero after 2005.