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Expropriation through loan guarantees to related parties: Evidence from China[☆]

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Available online 19 November 2007

Abstract

We identify and analyze a sample of publicly traded Chinese firms that issued loan guarantees to their related parties (usually the controlling block holders), thereby expropriating wealth from minority shareholders. Our results show that the issuance of related guarantees is less likely at smaller firms, at more profitable firms and at firms with higher growth prospects. We also find that the identity and ownership of block holders affect the likelihood of expropriation. In addition, we use this sample to provide new evidence on the relation between tunneling and proxies for firm value and financial performance. We find that Tobin's Q, ROA and dividend yield are significantly lower, and that leverage is significantly higher, at firms that issued related guarantees.

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JEL classification: G32; G34; G38

Keywords: Block holder; China; Corporate governance; Expropriation; Tobin's Q; Tunneling

1. Introduction

In recent years, research in the area of corporate governance has increasingly shifted in focus from the conflict of interest between managers and diffuse shareholders to the conflict of interest between minority shareholders and controlling block holders. This shift in focus reflects the growing awareness of two facts. First, concentrated ownership is the rule rather than the exception in most parts of the world. Second, a controlling block holder has strong incentive to use firm resources to maximize personal benefits rather than shareholder wealth so long as the rights of

minority shareholders are not well-protected (La Porta et al., 1999). Johnson et al. (2000) argue that expropriation of minority shareholder wealth by controlling block holders, to which they refer as “tunneling,” is a worldwide phenomenon and can take various forms. They define tunneling as transfers of resources from the firm to the controlling block holder “through self-dealing transactions” including “outright fraud or theft . . . but also . . . loan guarantees . . . and so on.” (p. 22).

One of the problems of empirical research in this area is that researchers usually cannot explicitly identify and link changes in firm value to “tunneling” because of the clandestine nature of this activity. Because tunneling is rarely observed directly, researchers instead have focused on linking indirect measures of tunneling, such as the wedge between the cash-flow rights and control rights of a firm's controlling shareholder or the legal and regulatory environment of a country, to proxies for firm value, such as Tobin's Q or return on assets. Examples of such studies include La Porta et al. (2000a,b, 2002), Joh (2003),

[☆] This paper was presented at 30th Anniversary Conference of the *Journal of Banking and Finance*, held June 2006 in Beijing, PRC. This paper was reviewed and accepted while Prof. Giorgio Szegö was the Managing Editor of The Journal of Banking and Finance and by the past Editorial Board.

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Claessens et al. (2002), Lins (2003), Klapper and Love (2003), Doidge et al. (2004, 2007), and Wei et al. (2005).

A weakness of this *indirect* approach is that opportunities to tunnel are not necessarily seized upon and that tunneling therefore is inferred rather than observed. For example, an indirect measure for tunneling used in La Porta et al. (2002) is the level of investor protection. The hypothesized positive relation between the level of investor protection and firm value is based on two assumptions: first, that the level of investor protection is negatively correlated with tunneling; and second, that tunneling is negatively correlated with firm value.

In this study, we observe a *direct* measure of tunneling that enables us to analyze both relations separately, thereby testing the validity of the assumptions that underlie much of the existing empirical literature regarding expropriation by controlling shareholders. We identify a set of 88 publicly traded Chinese firms where a related party obtained a guarantee of repayment for a loan to the related party that was unrelated to the business activities of the listed firm.¹ We view such a “related-party loan guarantee” as an unambiguous and direct method of tunneling. In securities markets of most developed economies, regulators prohibit such loan guarantees, but these guarantees were permissible and issued by many listed companies in China during the 1990s until Chinese securities regulators prohibited issuance of any new related-party guarantees in June 2000.²

Our first set of results show that the issuance of related guarantees is less likely at smaller firms, at profitable firms and at firms with high growth prospects. We also find that both the identity and ownership of block holders affect the likelihood of expropriation. Firms with State Agencies and Bureaus as controlling block holders are less likely to issue related guarantees, and firms with higher percentage ownership by private *non*-controlling block holders are less likely to issue related guarantees.

Our second set of results shows that tunneling is associated with lower firm value as proxied by Tobin's Q, and lower return on assets and dividend yield. These findings provide a degree of validation for previous studies that test the relation between indirect measures of tunneling and these proxies for firm value and financial performance. Finally, we show that leverage is significantly higher at firms that issued related guarantees. This finding is consistent with our argument that leverage is a useful proxy of expropriation in a country like China, where State banks allocate credit to individual firms based on national policy rather than financial performance.

The remainder of this article is organized as follows. In Section 2, we review the recent literature on the relation between corporate governance and firm value. In Section 3, we discuss the institutional background and present our hypotheses. Section 4 provides a description of our data. In Section 5, we present our results regarding the likelihood of the issuance of related guarantees and several firm characteristics, and regarding how the issuance of related guarantees impacts proxies for firm value and financial performance. In Section 6, we provide a summary and draw conclusions.

2. Literature on the relation between corporate governance and firm value

A number of papers have examined the relation between *indirect* measures of tunneling and proxies for firm value and financial performance. La Porta et al. (2002) examine the relation between investor protection and firm value in 27 wealthy countries and find that firms in countries with better investor protection have significantly higher values as measured by Tobin's Q. Claessens et al. (2002) examine data from eight East Asian economies and find that Tobin's Q decreases with the separation of cash-flow rights from the control rights of the largest block holder. Lins (2003) finds similar results for a much larger sample of firms from 26 emerging markets. Klapper and Love (2003) examine data from 12 emerging market economies and find that firms in countries with higher governance rankings have higher valuations as measured by Tobin's Q. They report similar results using return on assets as their performance measure. Using data from Korean firms, Joh (2003) finds an inverse relation between firm profitability as measured by return on assets and the separation of cash-flow rights from the control rights of the largest block holder. La Porta et al. (2000a) examine data from 33 countries around the world and find that countries with better protection of minority shareholders pay higher dividends. Doidge et al. (2004) examine differences in the value of foreign firms that do and do not cross-list on US exchanges. They find that cross-listed firms have significantly higher valuations as measured by Tobin's Q. In a follow-up paper, Doidge et al. (2007) show that the probability that a firm will cross-list on a US exchange is inversely related to the control rights held by the controlling shareholder and to the wedge between the controlling shareholder's control rights and cash-flow rights.

Three papers provide *direct* evidence on tunneling activities by controlling shareholders. Bertrand et al. (2002) develop an innovative technique to analyze tunneling through corporate pyramids in India, and provide evidence that controlling shareholders divert cash flows from firms in which they have low cash-flow rights to firms in which they have high cash-flow rights, thereby expropriating wealth from minority shareholders. Bae et al. (2002) examine stock market reactions to merger announcements involving Korean chaebols and find evidence that controlling shareholders use intra-group acquisitions to expropriate

¹ “Related parties” include large shareholders and entities controlled by those shareholders.

² Johnson et al. (2000) discuss how related-party loan guarantees in some European countries are used to expropriate minority shareholders. Bae et al. (2002) mention loan guarantees issued among members of Korean chaebols. Bertrand et al. (2002) mention the use of related-party loan guarantees by Indian firms.

wealth from minority shareholders. Finally, in the paper most closely related to our own, Cheung et al. (2006) examine related-party transactions between Hong-Kong-listed companies and their controlling shareholders. They show that related-party transactions are associated with large losses in value for minority shareholders.

In this study, we identify a set of listed firms that unambiguously were tunneled by the issuance of loan guarantees to their controlling block holder (or to entities controlled by their controlling block holder). We test whether the issuance of related guarantees is negatively associated with firm value and firm performance. We also test whether ownership structure and other firm characteristics help to explain the probability of the issuance of related guarantees.

3. Institutional background and hypotheses

3.1. Corporate governance in China

During the 1990s, the Chinese government privatized more than a thousand large state-owned enterprises (SOEs) through share-issuance privatizations on the two primary Chinese stock exchanges – the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE). The corporatization and share-issuance privatization of large SOEs are central elements of the Chinese strategy towards creation of a “modern-enterprise system.”³

When privatizing SOEs, the Chinese government created a complex classification of shareholders. First, it divided shares into tradable and non-tradable shares. Tradable shares can be freely traded on various stock exchanges and typically account for about one-third of outstanding shares. Within the classification of tradable shares, there are a number of different types. The most important are Tradable A Shares, which trade on China’s two major stock exchanges and can be owned by domestic individuals and corporations. Tradable A Shares were the only type of equity that could be publicly traded among domestic investors.^{4,5} In this study, the market price of a listed company refers to the price of its A shares.

In addition to the domestic Tradable A shares, some firms have issued foreign shares (B shares and H shares). B shares are traded on the two domestic exchanges, whereas H shares trade in Hong Kong on the Hong Kong Exchange.⁶

³ Jones et al. (1999) coin the term “share-issuance privatizations.” Sun and Tong (2003) evaluate the changes in financial performance of Chinese firms following their share-issuance privatizations.

⁴ In initial public offerings, regulators typically required that A shares account for about one third of a firm’s total outstanding shares. Until July 1999, the CSRC limited the maximum ownership of A shares to 0.5%, when this limitation was raised to 5.0%. This regulation effectively prohibited block holdings of A shares.

⁵ Managerial ownership in China is very small. Wei et al. (2005) find that senior managers and directors own on average only 0.015% of the outstanding shares.

⁶ Initially, B shares were available only to foreign investors but this restriction was relaxed in June 2001 to also allow domestic investors who have foreign currency accounts in brokerage firms to trade the B shares.

Firms issuing foreign shares have to adhere to stricter regulations than those issuing only A shares.

There are two types of non-tradable shares: State shares and Legal-Person shares. State shares typically account for about one third of outstanding shares and are held by government agencies (e.g., the Bureau of State Property Management and regional/local finance/asset-management bureaus) and by Solely State-Owned enterprises (SSOEs).⁷

Legal-Person (“LP”) shares are held by legal persons, a term that describes non-individual legal persons, including listed companies, unlisted private companies, non-bank financial institutions, and some State-owned enterprises.

As emphasized in Sun and Tong (2003), Legal-Person and State shares are similar because most legal persons are ultimately controlled by the State and both types of shares are not tradable.⁸ Further demonstrating this similarity is that State-owned Legal-Person shares (the official sub-classification of non-tradable shares of many listed firms) were considered to be a subset of State shares prior to 2003, but after that date were reclassified as Legal-Person shares.

Even though this classification system seems clear-cut, several researchers point out that there are ambiguities in the official classification system (see Delios et al., 2006). For example, legal persons can hold both State shares and Legal-Person shares. Legal-Person shares can be held by both private and State-controlled entities and both domestic and foreign entities. State shares can be held by both corporate SOEs and government bureaus.

These ambiguities have led us to adopt an alternative classification scheme for non-tradable shares. We distinguish four groups that can be clearly and uniquely identified based on the ultimate ownership of the block holdings of listed Chinese firms and that are distinctly different in terms of their incentives to maximize shareholder value: State Non-Corporate block holders, State Corporate block holders, Private block holders and Foreign block holders.

This classification relies on the database of Chinese ownership developed by the National University of Singapore (“NUS”) Business School. The NUS-classification produces 17 detailed classes on non-tradable shares, which we regroup in four groups of ultimate owners. The groups are as follows (where we refer to the Delios et al. (2006) detailed classifications in parentheses). *State Non-Corporate* includes: central government (1); local governments (2); government ministries (3); government bureaus (4); State asset-management bureaus (7); State research institutes (10); and State-owned banks (16). The group *State Corpo-*

⁷ SSOEs differ from other Chinese corporations in that they do not hold annual shareholder meetings and their boards of directors are directly appointed by the State.

⁸ On April 29, 2005, the Chinese Securities Regulatory Commission (CSRC) announced a program by which non-tradable shares would be converted into tradable shares. By the end of 2006, the process was essentially complete, with more than 95% of the affected companies completing the conversion. See Beltratti and Bortolotti (2006) and Cole et al. (2006) for two studies that analyze how this program was received by the market when it was announced and when it was implemented.

rate includes companies that formerly were government ministries (5); market-oriented state-owned enterprises (9) and infrastructure construction companies (8). We also include State asset-investment bureaus (6) into this group as these entities are corporations rather than 'government agencies'. The *Private* classification includes security companies (11); investment funds (12); private companies (13); private individuals (14); and work unions (17). The group *Foreign* includes foreign companies and individuals (15).

The distinction between *State Non-Corporate* and *State Corporate* shareholders is important because the incentives (e.g., profit-sharing) and expertise (e.g., managerial and industry expertise) of corporate managers are fundamentally different from those of government bureaucrats. Moreover, *State Non-Corporate* block holders are likely to have more direct ties with the Chinese State, which directs policy loans by the large State-controlled banks, so the holders of *State Non-Corporate* shares are less likely to need related-party guarantees in order to obtain a bank loan.

3.2. Loan guarantees to related parties

A loan guarantee to a related party refers to a guarantee issued by one entity that it will ensure repayment of a loan made to a related entity by a third party, usually a bank. In our data, the entity issuing the guarantee is a listed firm and the related entity is a block holder of the listed firm, or an entity controlled by a block holder. Typically, the listed firm pledges its assets as collateral for the block holder's loan.⁹ This guarantee of repayment benefits the controlling block holder in two ways. First, it enables her to obtain financing at a lower interest rate than otherwise would be available. Second, it provides her with an option to default on the loan, leaving the burden of repayment to the listed company.

In an attempt to better protect minority shareholders, the Chinese securities market regulator introduced a new regulation in June 2000, prohibiting the issuance of any new debt guarantees to shareholders of listed firms, or subsidiaries of these shareholders (see Berkman et al., 2005). The regulation did not require termination of pre-existing guarantees.

Several recent cases in China clearly illustrate that the issuance of the related guarantees harms the interests of minority shareholders. We describe one of these cases to illustrate the extent to which block holders can expropriate minority shareholders, and the extent to which creditors are exposed to expropriation through the issuance of related guarantees.¹⁰

⁹ A quote from an officer of a major State-controlled bank illustrates the importance of related guarantees issued by listed firms: "If listed companies can not be qualified as debt guarantors in China, no other firm would be qualified." (*New Fortune*, 2001, v.8.)

¹⁰ More examples of how related guarantees are used to expropriate minority shareholders in China can be found in *New Fortune*, 2001, v.7 and v.8.

At the end of 2000, the parent company of *Monkey King* (a listed company) was placed in liquidation. Until 1999, *Monkey King* had outstanding loans to the parent company totalling 890 million Yuan, or more than US\$ 100 million. It had also guaranteed the debt of its parent for a total sum of 244 million Yuan. However, year-end total assets of *Monkey King* amounted to only 934 million Yuan, exposing not only minority shareholders, but also creditors to the risk of default by the parent company.

3.3. Related-party loan guarantees and firm characteristics: Hypotheses

We hypothesize that the likelihood of expropriation of minority shareholder wealth by a large shareholder is related to a number of observable firm characteristics. First, we conjecture that expropriation is least likely when a *State Non-Corporate* entity is the controlling block holder and most likely when a *Private* or *Foreign* entity is the controlling block holder. The monetary benefits from related guarantees can be captured most easily and directly by *Private* and *Foreign* entities, which would pay a lower interest rate and/or would be able to walk away from a guaranteed loan. *State Non-Corporate* entities would have the most difficulty in capturing monetary benefits of the loan guarantees, which would accrue to the taxpayer rather than to the bureaucrats running the government entity. *State Corporate* entities would fall in between *State Non-Corporate* and *Private/Foreign*.

Second, we follow La Porta et al. (2002) in assuming that the ultimate owner of the largest shareholder has effective control over a firm.¹¹ We expect that firms where the controlling block holder has greater cash-flow rights are less likely to issue related guarantees. For example, the controlling block holder may own only 20% of shares yet have full control of the firm's board of directors and management. In this case, the substantial wedge between control rights (which we assume to be 100%) and cash-flow rights (20%) gives the controlling block holder a strong incentive to expropriate minority shareholders. In contrast, when the controlling block holder owns, for example, 60% of the firm, cash-flow rights and control rights are better aligned, giving the controlling shareholder less incentive to expropriate minority shareholders. Both La Porta et al. (2002) and Claessens et al. (2002) provide evidence that an increase in the cash-flow rights of the controlling shareholder is positively related to firm value as measured by Tobin's Q, which they attribute to a lower probability of tunneling.

Because cash-flow rights are most valuable to *Private/Foreign* entities and least valuable to *State Non-Corporate* entities, we also interact the percentage ownership

¹¹ The absence of cumulative voting procedures in China reinforces the idea that the ultimate owner of the largest shareholder has effective control.

with indicator variables for *State Non-Corporate*, *State Corporate*, *Private* and *Foreign*. We expect negative coefficients on all of the interaction terms but smallest in magnitude for *State Non-Corporate* and largest in magnitude for *Private* and *Foreign*.

Many researchers argue that the presence of multiple block holders can be an effective mechanism for reducing expropriation.¹² According to the theoretical models, multiple block holders monitor one another in order to protect their own interests, to the benefit of the minority shareholders. Even in case of collusion between block holders, minority shareholders are likely to benefit as coordination problems between block holders potentially increase the cost of tunneling. Hence, we hypothesize that the likelihood of expropriation decreases with the ownership share of non-controlling block holders. We also expect that *Private* and *Foreign* non-controlling block holders make better monitors than *State Non-Corporate* and *State Corporate* block holders because they more directly bear the costs of tunneling; and that *State Corporate* non-controlling block holders make better monitors than *State Non-Corporate* non-controlling block holders because of their experience and incentives through profit-sharing arrangements. We calculate the ownership of non-controlling block holders as the aggregate ownership in each category by the second- through 10th-largest shareholders (listed firms in China must report the ownership of the 10 largest shareholders).

Fourth, we expect that the likelihood of expropriation is lower at firms that have significant growth opportunities. For controlling shareholders at these firms, the cost of expropriation could be substantial if it reduces the expected future cash flows from existing or future investments of the firm. We use the observed asset growth from 1999 to 2001 as a proxy for *Growth Opportunities*. Similarly, to the extent that current profitability is an indication of future profitability, we expect a negative relation between profitability and the probability of expropriation. On the other hand, since more value can be expropriated in profitable firms, one might expect a positive relation between profitability and the probability of expropriation. We measure *Profitability* as 1999 net income divided by 1999 total assets.

Finally, we might expect that larger firms are more likely to be the target of expropriation simply because there is more value to expropriate. In addition, State-owned Chinese banks are more likely to approve loans guaranteed by large firms because of their focus on accounting numbers and lack of expertise in credit analysis and risk management. On the other hand, larger firms are likely to have better internal monitoring systems and are more exposed to scrutiny from outside stakeholders. We measure *Firm Size* using the natural logarithm of 1999 total assets.

3.4. Related-party loan guarantees, firm value and financial performance: Hypotheses

As stated above, recent studies examining expropriation of minority-shareholder wealth implicitly assume (i) that weaker corporate governance increases the probability of tunneling, and (ii) that higher probability of tunneling is associated with lower firm valuations. Because we directly observe an indicator of tunneling, we are in a position to test the validity of these two assumptions underlying much of the empirical work in this area. The hypotheses in the previous section relate to the first assumption. We now turn to the second assumption that a higher probability of tunneling adversely impacts firm value and financial performance. As noted in Section 2, most previous researchers have relied upon three primary proxies to measure the impact of expropriation of minority shareholders: return on assets, dividend yield and Tobin's Q. Consequently, we hypothesize that the issuance of related-party loan guarantees should be negatively related to each of these three variables: *ROA*, *Dividend Yield* and *Tobin's Q*.

Tobin's Q is the market-to-book ratio, calculated as the market value of assets (the product of the firm's total number of outstanding shares multiplied by the share price plus the book value of its total debt) divided by the book value of total assets (all measured as of year-end 1999). *ROA* is the firm's 1999 net income divided by the book value of total assets as of year-end 1999. *Dividend yield* is the total dividends per share paid by a firm during 1999 divided by the share price as of year-end 1999. We also test *Leverage* as a fourth proxy for firm value, where leverage is measured by the ratio of 1999 total debt to 1999 total assets. In the Chinese system, where State-controlled banks prop up poorly performing listed firms with policy loans, leverage is an intuitive (inverse) proxy for firm value.

After calculating our measures of *Tobin's Q*, *ROA*, *Dividend Yield* and *Leverage* for each firm, we also calculate industry-adjusted measures for each firm by calculating the median value of that measure for the firms in the same industry and subtracting the industry median from the firm's value of that measure. We define industry sectors at the level of two-digit SIC codes, which we obtained from the CSRC.

4. Data

We obtain data from four primary sources: Datastream, GTA, NUS and 1999 annual reports. We obtain stock-price data from Datastream, financial data from GTA, ownership data from both GTA and NUS, and data on issuance of related-party loan guarantees from the 1999 annual reports of individual firms.

Our initial sample consists of all firms that had A-shares outstanding on either the Shanghai (SHSE) or Shenzhen (SZSE) Stock Exchange as of year-end 1999 and for which

¹² See Pagano and Roell (1998), Bennedson and Wolfenzon (2000) and Lins (2003).

we were able to obtain stock–price data from Datastream. From this initial sample, we exclude firms in the financial sector. We also exclude firms with shares listed on overseas stock exchanges because these firms have significantly different governance structures than firms issuing only domestic shares, leaving 923 firms.¹³

We then merge the data of the remaining firms with financial data obtained from GTA and with data on ultimate ownership obtained from the NUS Business School's database on the ownership of Chinese firms. We are able to obtain stock price, financial and ownership data for 875 firms. Definitions for each of the variables used in our analysis can be found in Appendix 1.

To identify firms issuing loan guarantees to related parties, we searched the 1999 annual reports of each of these firms. Firms are required to disclose information on loan guarantees to related parties in their annual reports, including the size of the guarantee and the identity of the related party.¹⁴ Out of our sample of 875 firms, we find 88 revealing in their 1999 Annual Report that they had issued a loan guarantee to a related party. Appendix 2 lists each of these 88 firms along with the name and ownership share of their controlling shareholder and information about the related guarantee.

5. Results

5.1. Related-party loan guarantees

Panel A of Table 1 presents descriptive statistics on the percentage ownership of the controlling block holder for the 88 firms issuing related guarantees. The average percentage block ownership is 45.30, with a range of 2.29–83.75. Of the 88 firms' controlling block holders, 75 are *State Corporate*, seven are *State Non-Corporate*, four are *Private* and two are *Foreign*. Average controlling ownership is highest when the block holder is a *State Non-Corporate* entity (52.77%) and lowest when the block holder is a *Private* entity (23.18%), with *State Corporate* (45.97%) and *Foreign* entities (38.32%) falling in between.

As shown in Panel B of Table 1, 63% of the loan guarantees were issued to the firm's largest (controlling) block holder; the remaining 37% were issued to other entities controlled by the largest block holder. Related guarantees to the largest block holder were most prevalent at *State Corporate* entities (67%) as compared with 50% for *Private*

entities, 43% for *State Non-Corporate* entities and zero percent for *Foreign* entities. Three-fourths of the controlling block holders were in the same line of business as the listed firm issuing the related guarantee.

The related guarantees often were large enough to threaten the viability of the issuing firm. The average loan guarantee was equal to 21% of assets and, for 16 of the 88 firms, the amount of loan guarantee was greater than total equity (not shown in table).

5.2. Related-party loan guarantees and firm characteristics

In Table 2, we present descriptive statistics for the full sample as well as for the 88 firms that issued related guarantees and the 787 firms without related guarantees. We first focus on the full sample and see that the controlling block holder on average held 45.75% of the outstanding shares. Of these controlling block holders, 15.7% were *State Non-Corporate* entities, 74.9% were *State Corporate* entities, 8.5% were *Private* entities and the remaining 1.0% were *Foreign* entities. The non-controlling *State Non-Corporate*, *State Corporate*, *Private* and *Foreign* block holders held, in aggregate, 1.29%, 8.24%, 5.53% and 1.47% of the outstanding shares, respectively. The average firm had a return on assets of 4.4%, 1999–2001 asset growth of 33% and 1999 total assets of RMB 1.25 billion. The sample firms range in size from RMB 41 million to RMB 26 billion (US\$ 5 million to US\$ 3.15 billion).

When we compare descriptive statistics for firms issuing related guarantees to those that did not issue related guarantees, there are no significant differences in the percentage ownership of either the controlling (*PCT_1*) or the non-controlling block holders (*PCT_2-10*). However, when we look at the identity of the controlling block holder, we find that firms issuing related guarantees were significantly less likely to have a *State Non-Corporate* block holder and significantly more likely to have a *State Corporate* controlling block holder. Hence, it appears that the identity is more important than the size of the block holder.

When we interact *PCT_1* and *PCT_2-10* with dummies for block holder identity, we find that firms issuing related guarantees have significantly lower ownership by *Private* controlling block holders (PVT^*PCT_1) and *Private* non-controlling block holders (PVT^*PCT_2-10).

In addition, the statistics in Table 2 indicate that firms issuing related guarantees were significantly less profitable, had significantly smaller growth opportunities and were significantly larger than firms that did not issue related guarantees.

5.3. Logistic regression results

In Table 3, we present the results from logistic regressions where the dependent variable is a dummy variable that is equal to one for firms with related guarantees

¹³ Firms with overseas listings need to abide by the listing requirements of the overseas exchange, preventing them from issuing related-party guarantees in most cases. Firms with B-shares are included in our sample because these firms still abide by the domestic listing rules. Given that B-shares account for only a small portion of the outstanding shares of the firms with B-shares, we use only A-share prices in this research.

¹⁴ In each firm's annual report, Appendix 6 ("Related Parties Relationships and Transactions") lists the details of related-party guarantees: the related party's name, the type of relationship and amount of the loan guarantee.

Table 1
Descriptive statistics for related-party loan guarantees (RG)

	Observations	Mean	Median	Minimum	Maximum
<i>Panel A: Percentage ownership by largest shareholder</i>					
All	88	45.30	43.44	2.29	83.75
State Non-Corporate	7	52.77	49.15	40.90	72.45
State Corporate	75	45.97	45.18	2.30	83.75
Private	4	23.18	23.27	16.37	29.80
Foreign	2	38.32	38.32	30.48	46.16
<i>Panel B: Other descriptive statistics by classification of largest shareholder</i>					
	All	State Non-Corporate	State Corporate	Private	Foreign
Number of Observations	88	7	75	4	2
RG to Largest	0.63	0.43	0.67	0.50	0.00
Same Business	0.75	0.43	0.79	0.50	1.00
Parent	0.67	0.43	0.71	0.50	0.50
RG to Assets	0.21	0.24	0.21	0.18	0.15

Descriptive statistics for a sample of 88 publicly traded Chinese firms that issued a loan guarantee to a related party, either a block holder or an entity controlled by a block holder. In Panel A are descriptive statistics on the percentage ownership by the largest shareholder, broken down by four types of controlling block holder: State Non-Corporate, State Corporate, Private and Foreign entities. In Panel B are descriptive statistics on variables that characterize the loan guarantee: whether it was issued to the largest block holder rather than a smaller block holder, whether the largest block holder was in the same line of business as the firm, whether the largest block holder was the parent firm, i.e., the firm was a subsidiary of the block holder, and the size of the related loan guarantee relative to the total assets of the firm.

and is equal to zero otherwise. For each variable in column 1, we present the marginal effect over the t -statistic for that parameter. We test a number of different specifications that include different information on block holder ownership.

Each of the specifications includes profitability, asset growth and firm size. In all specifications, each of these three variables is statistically significant at least at the 0.05 level and has the hypothesized sign. Firms are significantly less likely to issue related loan guarantees when they are smaller, which is consistent with our hypothesis that larger firms are more likely to be the targets of tunneling. Firms also are significantly less likely to issue related guarantees when they are more profitable and when they have better growth opportunities (as proxied by asset growth from 1999 to 2001). This is consistent with the hypothesis that tunneling is less likely when the firm is profitable and/or has good growth opportunities, as tunneling can reduce the value of existing investments and/or growth opportunities, offsetting any gains to the controlling block holder from tunneling.

As is the case with most of the research in this area of governance, it is difficult to determine the direction causality and it is especially difficult here because we use an ex-post measure of growth opportunities. While our result might indicate that expropriation is more likely at firms with poor growth prospects, they also could be indicating that tunneling reduces subsequent asset growth regardless of the firm's growth opportunities.

In column 2 of Table 3, we include the percentage ownership of the controlling block holder and the combined percentage ownership of the nine non-controlling block holders. As hypothesized, both are negative but neither is statistically significant. The lack of statistical significance for the percentage ownership of the controlling block

holder offers little support for the hypothesis that the probability of tunneling through the issuance of loan guarantees decreases as the cash-flow rights of the controlling shareholder increases (see La Porta et al., 2002; Claessens et al., 2002 and Joh, 2003).

It is possible that the percentage ownership variables are nonlinear, and that nonlinearity is hiding their significance in our linear specification. As a robustness test, we test several nonlinear specifications. First, we add a percentage ownership square term, which is negative but insignificant. This does suggest that the effect of ownership declines as ownership increases. Second, we break percentage ownership into a three-piece spline function by interacting percentage ownership with three dummy variables, one each for ownership from 0% to 24%, from 25% to 49% and from 50% to 100%. Each of these variables is negative and decline in magnitude but none are significant. Third, we enter the three dummy variables by themselves. Again, none are statistically significant.

In column 3 of Table 3, we add three dummy variables – *State Corporate*, *Private* and *Foreign* – indicating the identity of the controlling block holder. We exclude the dummy for *State Non-Corporate*, so the block-holder-identity dummies measure the effect of ownership relative to this omitted category. Each of the three block-holder-identity dummies is positive and *State Corporate* is statistically significant at better than the 0.05 level, indicating that tunneling is more likely when a State Corporate entity is the controlling block holder. An alternative parameterization is to exclude the dummy for *Foreign* controlling block holders; in this case, only the dummy *State Non-Corporate* is statistically significant at better than the 0.05 level ($t = -2.36$). Hence, these results indicate that tunneling is less likely when a *State Non-Corporate* entity is the controlling block holder, consistent with our hypothesis.

Table 2
Descriptive statistics for variables used to explain the issuance of loan guarantees to related parties

(1) Variable	(2) All firms (n = 875)		(3) Firms not issuing guarantees (n = 787)		(4) Firms issuing guarantees (n = 88)		(5) Difference	(6) t-stat
	Mean	S.E.	Mean	S.E.	Mean	S.E.		
Largest Block Ownership (PCT_1)	45.75	0.61	45.80	0.65	45.30	1.85	0.50	0.26
State Non-Corporate (SNC)	0.157	0.01	0.165	0.01	0.080	0.03	0.085	2.69 a
State Corporate (SC)	0.749	0.01	0.737	0.02	0.852	0.04	-0.115	-2.80 a
Private (PVT)	0.085	0.01	0.089	0.03	0.045	0.02	0.044	1.77
Foreign (FOR)	0.010	0.01	0.009	0.003	0.023	0.02	-0.014	-0.85
SNC*PCT_1	6.44	0.55	6.69	0.58	4.19	1.57	2.49	1.49
SC*PCT_1	35.87	0.88	35.50	0.94	39.18	2.45	-3.67	-1.40
PVT*PCT_1	3.12	0.38	3.35	0.42	1.05	0.54	2.30	3.36 a
FOR*PCT_1	0.32	0.11	0.26	0.10	0.871	0.63	-0.61	-0.96
PCT_2-10	16.85	0.46	16.940	0.49	16.05	1.38	0.89	0.61
SNC*PCT_2-10	1.29	0.14	1.18	0.13	2.27	0.701	-1.09	-1.53
SC*PCT_2-10	8.24	0.34	8.28	0.35	7.88	1.13	0.40	0.34
PVT*PCT_2-10	5.53	0.29	5.74	0.26	3.70	0.444	2.04	3.95 a
FOR*PCT_2-10	1.47	0.18	1.43	0.18	1.85	0.604	-0.42	-0.67
Profitability	0.044	0.003	0.049	0.003	0.002	0.010	0.047	4.50 a
Growth opportunities	0.33	0.02	0.352	0.02	0.107	0.039	0.25	5.55 a
Firm size	11.53	0.03	11.51	0.03	11.73	0.074	-0.22	-2.71 a

PCT_1 is the percentage ownership of the largest block holder. SNC is a dummy variable equal to one if the largest block holder is a State Non-Corporate entity; SC is a dummy variable equal to one if the largest block holder is a State-controlled, marketized corporate entity; PVT is a dummy variable equal to one if the largest block holder is a private entity; FOR is a dummy variable equal to one if the largest block holder is a foreign entity. PCT_2-10 is the percentage ownership by the second through tenth largest shareholders. Profitability is 1999 net income divided by 1999 total assets. Growth opportunities is observed growth in total assets from 1999 to 2001. Firm size is natural logarithm of 1999 total assets.

In column (2) are the means and standard errors for the full sample; in columns (3) and (4) are the means and standard errors for the subsamples that did not and did issue related guarantees, respectively. In column (5) is the difference in means appearing in columns (3) and (4) and in column (6) is a test statistic from a *t*-test for significance of differences in the means in columns (3) and (4). a and b indicate statistical significance at the 0.01 and 0.05 levels, respectively.

In column 4 of Table 3, we replace the percentage ownership of the controlling and non-controlling block holders with two sets of interaction terms, where each ownership percentage is interacted with dummy variables indicating block holder identity. The dummies indicating *State Corporate* and *Private* controlling block holders both are positive and significant at better than the 0.05 level, indicating that controlling ownership by a *State Corporate* or *Private* block holder increases the likelihood of tunneling. These results support our hypothesis that the bureaucrats controlling government agencies have the least incentive to expropriate minority shareholders.

Among the four interactions with the percentage controlling block ownership, the coefficient for *State Non-Corporate* is positive and significant at the 0.05 level while those for *State Corporate* and *Private* are negative but only marginally significant. These results indicate that the probability of a firm issuing a related guarantee is higher if *State Non-Corporate* controlling block holders have greater cash-flow rights, but is lower if *State Corporate* or *Private* controlling block holders have greater cash-flow rights. They are consistent with the notion that greater cash-flow rights inhibit *State Corporate* and *Private* block holders from tunneling but also suggest that greater cash-flow rights encourage *State Non-Corporate* block holders to tunnel.

Among our four interactions with percentage non-controlling block ownership, we find that greater ownership

by *Private* non-controlling block holders reduces the likelihood of tunneling. This supports our hypothesis that *Private* non-controlling block holders have the strongest incentives to monitor the controlling block holder and prevent expropriation of minority shareholders.

Not shown in Table 3 is an alternative specification where, in addition to the variables shown in column 4, we include a set of 23 dummy variables indicating industrial classification. Inclusion of the industry controls slightly improves the explanatory power of the model but does not qualitatively affect any of our findings in column 4; each variable that is statistically significant in column 4 remains statistically significant and has the same sign when we include the industry controls.

We perform several robustness tests. First, we exclude the firms with *State Non-Corporate* block holders. We find that our results are qualitatively unchanged. Second, we exclude firms with controlling ownership greater than 50% because they may have different governance structures. Again, we find that our results are robust to this exclusion.

5.4. Related-party loan guarantees and proxies for firm value and financial performance

This section analyzes the relation between the issuance of related guarantees and proxies for firm value and

Table 3
Logistic regression results explaining issuance of related guarantees

(1)	(2)	(3)	(4)
Largest Block Ownership (PCT_1)	−0.0005	−0.0010	
	−0.63	−1.34	
State Corporate (SC)		0.088	0.349
		2.44	b 2.84 a
Private (PVT)	0.019	0.426	
		0.35	2.50 a
Foreign (FOR)		0.14	0.019
		1.63	0.05
SNC*PCT_1			0.0044
			1.98 b
SC*PCT_1			−0.0013
			−1.67
PVT*PCT_1			−0.0066
			−1.39
FOR*PCT_1			0.0087
			0.97
(PCT_2-10)	−0.00067	−0.0013	
	−0.64	−1.15	
SNC*PCT_2-10			0.0036
			1.70
SC*PCT_2-10			−0.0010
			−0.77
PVT*PCT_2-10			−0.0051
			−2.24 b
FOR*PCT_2-10			−0.0015
			−0.77
Profitability	−0.493	−0.503	−0.535
	−4.09 a	−4.06 a	−4.18 a
Growth opportunities	−0.059	−0.058	−0.058
	−2.15 b	−2.15 b	−2.14 b
Firm Size	0.032	0.029	0.028
	2.53 b	2.27 b	2.13 b

Results from logistic regression analysis explaining the issuance of loan guarantees to a related party by publicly traded Chinese firms. The dependent variable is a dummy variable that takes on a value of one if the firm reported issuing a loan guarantee to a related party and zero otherwise. Of the sample of 875 firms, 88 issued related guarantees and 787 did not. PCT_1 is the percentage ownership of the largest block holder. SNC is a dummy variable equal to one if the largest block holder is a State Non-Corporate entity; SC is a dummy variable equal to one if the largest block holder is a State-controlled, marketized corporate entity; PVT is a dummy variable equal to one if the largest block holder is a private entity; FOR is a dummy variable equal to one if the largest block holder is a foreign entity. PCT_2_10 is the percentage ownership by second through tenth largest shareholders. Profitability is 1999 net income divided by 1999 total assets. Growth opportunities is observed growth in total assets from 1999 to 2001. Firm size is natural logarithm of 1999 total assets. a and b indicate statistical significance at the 0.01 and 0.05 levels, respectively.

financial performance. Three caveats are in order when interpreting the results in this section. First, we expect that the issuance of a related guarantee proxies for the likelihood and extent of expropriation in general. Second, expropriation of minority shareholders is a general problem in the Chinese stock market that is not limited to the firms that issued related guarantees. Hence, estimates of the difference in financial variables between the firms that issued related guarantees and other firms are biased downward from the true value impact of expropriation. The final caveat in interpreting the link between

governance and performance in this section is the likely endogeneity of corporate governance (proxied here by the issuance of related-party loan guarantees). For example, it might be the case that growing firms with a large need for outside financing are reluctant to issue related-party loan guarantees in order to avoid increasing their cost of capital. These growth opportunities also would be reflected in the market valuation of the firm, thus inducing a negative correlation between the issuance of related-party loan guarantees and firm value. We attempt to mitigate this problem by using industry-adjusted performance measures and by including asset growth and firm size as control variables.¹⁵

Table 4 presents descriptive statistics for the four financial measures: industry-adjusted *Tobin's Q*, industry-adjusted *ROA*, industry-adjusted *Dividend Yield* and industry-adjusted *Leverage*. Statistics are presented separately for the full sample and for the subsamples of firms that did and did not issue related guarantees. The last two columns report the difference in the means of firms that did and did not issue related guarantees, along with a *t*-test statistic for whether the difference in the means of the two groups of firms is significantly different from zero. Consistent with our expectations, the results show that industry-adjusted *Tobin's Q* and *ROA* are both significantly lower for firms that issued related guarantees, while industry-adjusted *Leverage* is significantly higher for these firms. *Dividend Yield* for firms with related guarantees is smaller, on average, than for firms without related guarantees; however, the difference is not significantly different from zero.

Table 5 presents the results of cross-sectional ordinary-least-squares regressions where each of the four different financial measures serves as the dependent variable. To test the impact of related guarantees on the industry-adjusted *Tobin's Q*, *ROA*, *Leverage* and *Dividend Yield*, we include the natural log of total firm assets and ex-post asset growth as control variables in the regression model.¹⁶

As shown in Table 5, *Related Guarantee* has the expected sign in each of the four regression models. Firms issuing related guarantees have significantly lower industry-adjusted *Tobin's Qs* and *ROAs* and have significantly higher *Leverage*. The coefficient for *Dividend Yield* is negative as expected, but only significant at the 10% level.

The adjusted *Tobin's Q* for firms with related guarantees is lower by 0.436, which indicates a substantial value discount for firms that are tunneled using related guarantees. As argued previously, we think the discount reflects more than just the presence of a related guarantee, but the difference is still remarkably large, given that it is

¹⁵ Unfortunately, we do not have access to the dates firms first announced that they issued a related-party loan guarantee so we cannot apply event-study methodology, which would be an effective way of dealing with endogeneity issues.

¹⁶ See La Porta et al. (2000a, 2002), Claessens et al. (2002), Joh (2003) and Faccio et al. (2001).

Table 4
Descriptive statistics for indirect measures of tunneling

(1)	(2)	(3)	(4)	(5)	(6)
Variable	All Firms (<i>n</i> = 875) Mean	Firms not issuing guarantees (<i>n</i> = 787) Mean	Firms issuing guarantees (<i>n</i> = 88) Mean	Difference	<i>t</i> -stat
Tobin's Q (Industry Adjusted)	0.452	0.534	-0.279	0.814	7.19 a
ROA (Industry Adjusted)	-0.005	-0.002	-0.036	0.034	4.57 a
Dividend Yield (Industry Adjusted)	0.005	0.0053	0.0041	0.0012	1.23
Leverage (Industry Adjusted)	0.012	0.0025	0.1008	-0.097	-4.49 a

Descriptive statistics for four proxies of firm value and financial performance (Tobin's Q, ROA, Dividend Yield, and Leverage). Tobin's Q is measured by the market value of assets divided by the book value of assets, where the market value of assets is measured by the market value of equity plus the book value of total liabilities. ROA is measured as net income divided by total assets. Dividend Yield is measured by dividends per share divided by year-end share prices. Leverage is measured by total debt divided by total assets. Each variable is industry adjusted by calculating the median value for the firm's industry and subtracting that median from the firm's value of the variable. Industries are based upon official Chinese Securities Regulatory Commission definitions. All financial variables are measured as of year-end 1999. In column (2) are the means for the full sample; in columns (3) and (4) are the means for the subsamples that did not and did issue related guarantees, respectively. In column (5) is the difference in means appearing in columns (3) and (4) and in column (6) is a test statistic from a *t*-test for significance of differences in the means in columns (3) and (4). a and b indicate statistical significance at the 0.01 and 0.05 levels, respectively.

likely that there is some degree of expropriation at firms without related guarantees. The difference in ROA is 2.5% points per annum, also indicative of substantial expropriation. Adjusted dividend is 0.2% points lower for firms with related guarantees and leverage is 7.2% points higher.

As robustness tests, we reran each model appearing in Table 5, substituting the guarantee ratio (amount of the loan guarantee divided by total assets) for the related guarantee dummy. Substituting the guarantee ratio produces results (not shown) that are qualitatively unchanged from

Table 5
OLS regressions explaining industry-adjusted Tobin's Q, ROA, dividend yield and leverage

	Q	ROA	Dividend yield	Leverage
Intercept	10.56	-0.089	-0.039	-0.245
	11.99 a	-3.33 a	-7.75 a	2.89 a
Related guarantee	-0.436	-0.025	-0.002	0.072
	-2.14 b	-4.12 a	-1.71	3.68 a
Firm size	-0.891	0.006	0.004	0.023
	-11.73 a	2.82 a	8.86 a	3.18 a
Growth opportunities	0.990	0.057	0.0008	-0.096
	6.35 a	12.00 a	0.58	-6.42 a
Adjusted R ²	0.197	0.168	0.082	0.083

Results from ordinary-least-squares regressions to explain four proxies for firm value and financial performance (*Industry-adjusted Tobin's Q*, *ROA*, *Dividend Yield*, and *Leverage*) as a function of whether or not the firm was tunneled by issuing a loan guarantee to a related party (*Related Guarantee*). *Tobin's Q* is measured by the market value of assets divided by the book value of assets, where the market value of assets is measured by the market value of equity plus the book value of total liabilities. *ROA* is measured as net income divided by total assets. *Dividend Yield* is measured by dividends per share divided by year-end share prices. *Leverage* is measured by total debt divided by total assets. *Firm size* as measured by the natural logarithm of total assets and *Growth Opportunities* as measured by ex-post asset growth from 1999 to 2000. All financial variables are measured as of year-end 1999. For each variable, the parameter estimate appears over the associated *t*-statistic. a and b indicate statistical significance at the 0.01 and 0.05 levels, respectively.

those using the guarantee dummy and leads to the same conclusions. We also estimated each model with both the guarantee ratio and the related guarantee dummy. When we include both variables, we are, in effect, running a horse race to see which variable has greater explanatory power. Interestingly, for each of the four dependent variables, we find that the related guarantee dummy has greater explanatory power than the guarantee ratio. These results suggest that the value discount is due to the signal a firm gives by issuing related guarantees rather than the size of the guarantee.

The results in Table 5 validate for the effectiveness of *Tobin's Q* and *ROA* as measures of expropriation, supporting the use of these measures as proxies for the level of expropriation from minority shareholders (after inclusion of appropriate controls). The results suggest that *Dividend Yield* has less discriminatory power as measure of expropriation. Finally, we suggest that *Leverage* can be a useful proxy of expropriation in a country like China, where State banks allocate credit to individual firms based on national policy rather than financial performance.

6. Summary and conclusions

Recent studies examining expropriation of minority-shareholder wealth implicitly assume that weaker corporate governance increases the probability of tunneling, which, in turn, reduces firm value. For example, a higher ratio of cash-flow rights to control rights leads to a lower probability of tunneling, which, in turn, leads to higher values of Tobin's Q.

In this study, we identify a directly observable measure of tunneling: the issuance of loan guarantees by listed firms to its controlling block holder or to an entity controlled by that block holder. We use this measure to test the assumption that tunneling is negatively related to firm value and financial performance. We find strong evidence supporting

this assumption. Firms issuing loan guarantees to one of their block holders have significantly lower returns on assets, significantly lower dividend yields, significantly higher leverage, and significantly lower values of Tobin's Q.

We also provide evidence that ownership structure and other firm characteristics can partially explain the probability of tunneling. For our sample, the probability of tunneling is lower at smaller firms, at more profitable firms and at firms with higher growth prospects. These results support our hypothesis that tunneling should be less likely at profitable firms and firms with better growth prospects because the gains from tunneling are offset by reduced future cash flows to the firm.

The identity and ownership of block holders also affects the likelihood of expropriation. Firms with *State Non-Corporate* controlling block holders are significantly less likely to issue related guarantees than are firms with *State Corporate*, *Private* or *Foreign* controlling block holders.

This supports our hypothesis that *State Non-Corporate* block holders have greater difficulty in extracting the monetary benefits from related-party loan guarantees than other controlling block holders because cash flows accrue to taxpayers rather than to the bureaucrats in charge of the *State Non-Corporate* entities. Firms with higher percentage ownership by *Private* non-controlling block holders also are less likely to issue related guarantees. This supports our hypothesis that *Private* non-controlling block holders have the greatest incentive to monitor controlling block holders and prevent tunneling of firm assets because they have superior cash-flow rights as compared with State-controlled entities.

Acknowledgements

We thank Victor Gengshaofeng for research assistance. We thank conference participants and anonymous referees for helpful comments.

Appendix 1

Definition of variables used to analyze the issuance of loan guarantees to related parties

Relate guarantee (RG)	Dummy variable equal to one if the firm issued a related-party loan guarantee and zero otherwise
Amount of guarantee RG to assets	Amount of the related-party loan guarantee divided by firm's total assets
RG to largest	Dummy variable equal to one if the firm issued a loan guarantee to its largest shareholder and zero if the firm issued loan guarantee to some other related party
Same business	Dummy variable equal to one if the firm is in the same line of business as its largest shareholder
State non-corporate (SNC)	Dummy variable equal to one if the largest block holder is a State Non-Corporate entity (NUS categories 1, 2, 3, 4, 7, 10 and 16; see Delios et al., 2006)
State corporate (SC)	Dummy variable equal to one if the largest block holder is a State-controlled, marketized corporate entity (NUS Categories 5, 6, 8 and 9; see Delios et al., 2006)
Private (PVT)	Dummy variable equal to one if the largest block holder is a private entity (NUS Categories 11, 12, 13, 14 and 17; see Delios et al., 2006)
Foreign (FOR)	Dummy variable equal to one if the largest block holder is a foreign entity (NUS Category 15; see Delios et al., 2006)
PCT_1	Percentage ownership of the largest block holder
SNC*PCT_1	Percentage ownership by the largest block holder if the largest block holder is a State Non-Corporate entity and equal to zero otherwise
SC*PCT_1	Percentage ownership by the largest block holder if the largest block holder is a State Corporate entity and equal to zero otherwise
PVT*PCT_1	Percentage ownership by the largest block holder if the largest block holder is a Private entity and equal to zero otherwise
FOR*PCT_1	Percentage ownership by the largest block holder if the largest block holder is a Foreign entity and equal to zero otherwise
PCT_2-10	Percentage ownership by second through tenth largest shareholders
SNC*PCT_2-10	Percentage ownership by non-controlling State Non-Corporate block holders, i.e., sum of percentage ownership by State Non-Corporate block holders among the second through tenth largest shareholders
SC*PCT_2-10	Percentage ownership by non-controlling State Corporate block holders, i.e., sum of percentage ownership by State Corporate block holders among the second through tenth largest shareholders

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Appendix 1 (continued)

PVT*PCT_2-10	Percentage ownership by non-controlling Private block holders, i.e., sum of percentage ownership by Private block holders among the second through tenth largest shareholders
FOR*PCT_2-10	Percentage ownership by non-controlling Foreign block holders, i.e., sum of percentage ownership by Foreign block holders among the second through tenth largest shareholders
Profitability	1999 net income divided by 1999 total assets
Growth	Observed growth in total assets from 1999 to 2001
Opportunities	
Firm Size	Natural logarithm of 1999 total assets
Tobin's Q	Market value of assets divided by book value of assets, where market value of assets is equal to book value of total debt plus the product of shares outstanding and price per share as of year-end 1999
Leverage	1999 total debt divided by 1999 total assets
ROA	1999 net income divided by 1999 total assets
Dividend yield	Annual dividends per share distributed during 1999 divided by share price as of year end 1999

Appendix 2

88 publicly traded Chinese firms that issued loan guarantees to related parties

Ticker code	Name of firm	PCT_1	Name of controlling block holder	NUS CATE1	Same business	RG to largest	RG/TE (%)	RG/TA (%)
6	Shenzhen Zhenye Group	28.02	Shenzhen Construction Investment (Holding) Co., Ltd.	9	1	1	18	5
14	Shahe Industry	30.48	Hong Kong Ziyen Electronic Technology Co., Ltd.	15	1	0	-281	10
17	Shenzhen China Bicycle Grp	23.28	Shenzhen Lionda Holdings Co.,	9	0	1	91	7
21	Shenzhen Kaifa Technology	55.96	The Great Wall Science & Technology Co., Ltd.	9	1	1	19	11
24	China Merchant Property Development	43.54	Zhao Shang Bureau Shekou Industry Area Co., Ltd.	9	1	1	30	10
25	Shenzhen Tellus	72.45	Shenzhen Special Economic Zone Development (Group) Co., Ltd.	4	1	1	137	35
28	Shenzhen Accord Pharm	43.33	Shenzhen Investment Management Co., Ltd.	6	1	0	8	7
32	Shenzhen Sed Industry	64.51	Shenzhen Sanda Electronics Head Co.,	9	1	0	9	3
43	Shenzhen Nan-Guang (Group)	25.66	China Aerospace Technology Import & Export Shenzhen Co.,	9	1	1	46	17
504	Beijing Ccid Media Invest	29.00	Guo Bang Group Co., Ltd.	6	1	1	8	3
522	Guangzhou Baiyunshan Pharm	29.09	Guangzhou Bai Yun Shan Enterprises Group Co., Ltd.	9	1	0	-1706	16
528	Guangxi Liugong Machinery	63.47	Guangxi Liugong Group Co., Ltd.	9	1	1	6	3
531	Guangzhou Hengyun Ent	36.01	Guangzhou Kaide (Holding) Co., Ltd.	6	0	0	39	15
535	KMK Co.,	23.90	Hou Wang Group Co., Ltd.	9	1	1	51	18
550	Jiangling Motors Corp	41.02	JiangLing Automobile Group Co., Ltd.	9	1	1	0	0

Appendix 2 (continued)

Ticker code	Name of firm	PCT_1	Name of controlling block holder	NUS CATE1	Same business	RG to largest	RG/TE (%)	RG/TA (%)
551	Create Technology & Science	29.00	Suzhou Machinery (Holding) (Group) Co., Ltd.	9	1	0	7	4
552	Gansu Changfeng Special	41.63	Gansu Electronics Group Co., Ltd.	9	1	0	96	44
560	Kunming Department Store	24.00	Kunming Department Store Building Co.	9	1	1	130	24
605	Sihuan Pharm	73.00	Zhonglian Industry Stock Co., Ltd.	9	1	1	29	11
613	Hainan Dadonghai Tourism Centre	29.18	Hainan Sanya Yinnong Industry Development (Parent) Co., Ltd.	13	1	1	14	10
663	Fujian Yongan Forestry	38.80	Fujian Yongan Forestry Industry (Group) General Co., Ltd.	5	1	1	10	5
679	Dalian Friendship Group Co., Ltd.	54.55	Dalian Friendship Group Co., Ltd.	9	1	1	80	38
715	Citic Development-Shenyang Com Build	36.37	China Credit Xingye Trust & Investment Co., Ltd.	6	0	0	29	19
798	CNFC Overseas Fishery Co.	25.50	China Shui Chan (Group) (Parent) Co., Ltd.	9	1	1	17	14
820	Jincheng Paper Co., Ltd.	53.47	Jincheng Papermaking (Group) Co., Ltd.	9	1	0	8	4
902	China Garments Co.	51.01	China Clothing Group Co., Ltd.	9	1	1	15	10
929	Lanzhou Huanghe Enterprise	40.73	Lanzhou Huanghe Enterprises Group Co., Ltd.	9	1	1	11	5
600073	Shanghai Maling Aquarius	62.96	Shanghai Maling Aquarius (Group) Co., Ltd.	5	1	1	13	7
600074	Nanjing Zhongda Film	22.61	Neijiang Packing Materials Plant	9	1	1	30	14
600094	Shanghai Worldbest	18.60	Changzhou Worldbest Chemical Fibre Co., Ltd.	9	1	1	40	13
600103	Fujian Qingshan Paper Inds	26.05	Fujian Province Qingzhou Paper Mill	9	1	0	31	22
600105	Jiangsu YongDing Co., Ltd.	49.86	YongDing Group Corp	9	1	1	6	4
600110	China-Kinwa High Tech	36.87	China Science Institute Changchun Applied Chemical Tech	9	0	0	19	14
600178	Harbin Dongan Auto Engine	74.77	Harbin Dongan Generator (Group) Co., Ltd.	9	1	1	3	2
600190	Jinzhou Port Co., Ltd.	24.41	Dong Fang Group Industry Co., Ltd.	9	0	1	35	23
600203	Fujian Furi Electronics	72.70	Fujian Furi Group Co., Ltd.	9	1	1	57	19
600603	Shanghai Xingye Housing Co., Ltd.	2.29	Shanghai Textile House Development Corporation	9	1	1	159	60
600604	Shanghai Erfangji Textile	46.31	Pacific Electro-mechanics (Group) Co., Ltd.	9	0	1	240	134
600610	China Textile Machinery	52.91	Pacific Electro-mechanics (Group) Co., Ltd.	9	0	1	94	15
600612	China First Pencil	33.10	Shanghai Light Industry Holdings (Group) Co.,	5	0	0	14	4

(continued on next page)

Appendix 2 (continued)

Ticker code	Name of firm	PCT_1	Name of controlling block holder	NUS CATE1	Same business	RG to largest	RG/TE (%)	RG/TA (%)
600615	Shanghai Fenghua Group	52.64	Guanshengyuan Group Co.	9	0	1	18	12
600627	Shanghai Electric Apparatus	83.75	Shanghai Electric Apparatus (Group) (Parent) Co., Ltd.	9	1	1	17	3
600630	Shanghai Dragon Corp	49.39	Shanghai Textile Holding (Group) Company	5	1	0	21	7
600631	Shanghai No 1 Dept Store	45.18	Shanghai Yibai (Group) Co., Ltd.	9	1	1	51	19
600650	Shanghai JinJiang Tower	40.48	Jinjiang (Group) Co., Ltd.	9	1	1	8	6
600654	Shanghai Feilo	25.95	Shanghai Instrument Electronics Holding (Group) Co., Ltd.	9	1	0	34	14
600656	Shanghai Worldbest Pharm	41.09	China Hua Yuan Group Co., Ltd.	9	1	1	269	44
600658	Beijing C&W Technology Co., Ltd.	18.28	Beijing Chongwen Tianlong Co., Ltd.	9	1	0	162	60
600659	Fujian Shenlong Dev	17.35	Fujian Shen Long Enterprises Group Co., Ltd.	13	1	1	65	22
600663	Shanghai Lujiazui Fin& Trad	60.03	Shanghai Lujiazui (Group) Ltd.	9	1	1	121	64
600665	Shanghai Hu Chang Special Steel	67.03	Shanghai Wu Gang Co., Ltd.	9	1	1	18	14
600675	China Enterprise Co.	49.87	Shanghai Real Estate (Group) Co.	9	1	1	39	24
600679	Phoenix Co	63.04	Shanghai Light Industry Holding (Group) Company	5	1	0	45	21
600689	Shanghai Sanmao Textile	36.11	Shanghai Textile Holding (Group) Co., Ltd.	1	1	1	27	16
600694	Dashang Group	42.00	Dalian State Asset Administration Office	7	0	0	36	24
600698	Jinan Qingqi Motorcycle	40.90	Jinan State Assets Management Bureau	7	0	0	3	2
600700	Shaanxi Meihang Digital	28.87	Meihang (Group) Industrial Development Co., Ltd.	5	1	0	75	20
600706	Changan Information Ind	16.37	Xian WanDing Industry (Group) Co., Ltd.	13	0	0	160	36
600713	Nanjing Medical	27.11	Nanjing Pharmaceutical Co., Ltd.	9	1	0	7	3
600714	Qinghai Shanchuan Ferroal	51.22	Qinghai Shanchuan Coin Ferroalloy Group Co., Ltd.	9	1	0	110	60
600716	Qinhuangdao Yaohua Glass	74.56	China YaoHua Glass Group Co., Ltd.	9	1	1	54	38
600717	Tianjin Port Group	67.94	Tianjin Harbor Services Bureau	4	1	1	5	3
600732	Shanghai Port Machinery	66.56	Shanghai Gang Kou Machinery Manufacture Factory	9	1	1	41	18
600736	Suzhou New District Hi-Tech	52.60	Suzhou New District Economic Development Group Head Co.	9	1	1	27	10
600745	Huangshi Kangsai Section	52.61	Huangshi Kangsui Industry Development Co., Ltd.	9	1	1	58	19
600748	Shanghai Pudong Stainless	58.83	Shanghai Pudong Steel Company	9	1	1	36	31
600751	Tianjin Marine Shipping	38.92	Tianjin Tianhai Group Co., Ltd.	9	1	1	2	1

Appendix 2 (continued)

Ticker code	Name of firm	PCT_1	Name of controlling block holder	NUS CATE1	Same business	RG to largest	RG/TE (%)	RG/TA (%)
600757	Shanghai Worldbest Industry Dev	39.87	China HuaYuan Group Co., Ltd.	9	1	1	50	20
600767	Winsan Shanghai Industrial	46.16	Hong Kong Yun Sheng Co., Ltd.	15	1	0	45	21
600786	Dongfang Boiler Group	74.44	Oriental Boiler Plant	9	1	1	3	1
600793	Yibin Paper Industry	49.15	Yibin National Property Management Bureau	7	0	0	35	9
600800	Tianjin Global Magnetic	39.89	Tianjin Instrument ng (Parent) Co., Ltd.	9	0	0	11	6
600809	Shanxi Xinghuacun Fen Wine	75.82	Shanxi Xinghuacun Fenjiu (Group) Corporation	9	0	1	3	2
600814	Hangzhou Jiebai Group	35.00	Hangzhou Investment (Holding) Co., Ltd.	9	0	1	59	31
600817	Shanghai Hongsheng Tech	29.80	Shanghai Hongpu Industry Investment Co., Ltd.	13	0	0	9	3
600818	Shanghai Forever	64.07	Shanghai Light Industry Holdings (Group) Co.	5	0	0	−455	46
600822	Shanghai Material Trading	57.13	Shanghai Goods and Materials (Group) (Parent) Co., Ltd.	5	1	1	47	21
600823	Shanghai Shimao	42.57	Huangpu National Property Administrating Office	7	0	1		53
600829	Harbin Swan Ind	74.82	Harbin Building-Material Industry (Group) Corp	9	1	0	11	7
600832	Shanghai Oriental Pearl	54.35	Shanghai Broadcast Dian Development Co., Ltd.	4	1	0	81	42
600835	Shanghai Shangling Elec Appl	47.28	Shanghai Electric Apparatus (Group) (Parent) Co., Ltd.	9	1	0	11	4
600837	Shanghai Urban Agro-Busine	74.89	Shanghai Agriculture & Industry & Trade (Group) Corporation	9	1	1	−168	120
600841	Shanghai Diesel Engine	50.32	Shanghai Dongfeng Machinery (Group) Co., Ltd.	9	1	1	8	6
600843	Shanggong Co.,	46.35	Shanghai Light Industry Holdings (Group) Co., Ltd.	5	0	0	27	13
600848	Shanghai Automation Instr	60.90	Shanghai Yidian Holding (Group) Company	9	0	0	262	71
600865	Bai Da Group	29.93	Hangzhou Investment Holding Co.	9	0	0	48	22
600886	Sinopec Hubei Xinghua	57.58	China Petro-chemical Group Jing Men Petrol Chemical Industry	9	1	1	60	46
600893	Jilin Province Jifa Agri	37.03	Jilin Development Construction Investment Co., Ltd.	6	1	1	64	27

Ticker Code is the ticker symbol of the issuing firm. *PCT_1* is the percentage ownership of the controlling block holder. *NUS CATE1* is the narrow category of block holder identity as described in Delios et al. (2006). *Same Business* indicates if the firm is in the same line of business as its controlling block holder. *RG to Largest* indicates if the loan guarantee went to the largest block holder. *RG/TE* is the amount of the loan guarantee as a percentage of firm equity; *RG/TA* is the amount of the loan guarantee as a percentage of firm assets.

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