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Tunneling through intercorporate loans: The China experience ☆

Guohua Jiang [a], Charles M.C. Lee [b,*], Heng Yue [a]

[a] Guanghua School of Management, Peking University, Beijing 100871, China
[b] Graduate School of Business, 518 Memorial Way, Stanford University, Stanford, CA 94305-5015, USA

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ABSTRACT

This study investigates a particularly brazen form of corporate abuse, in which controlling shareholders use intercorporate loans to siphon billions of RMB from hundreds of Chinese listed companies during the 1996–2006 period. We document the nature and extent of these transactions, evaluate their economic consequences, examine factors that affect their cross-sectional severity, and report on the mitigating roles of auditors, institutional investors, and regulators. Collectively, our findings shed light on the severity of the minority shareholder expropriation problem in China, as well as the relative efficacy of various legal and extra-legal governance mechanisms in that country.

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1. Introduction

Traditionally, the focus of the agency literature in the U.S. has been on the conflict between firm managers and a diffused group of shareholders (e.g., Berle and Means, 1932; Jensen and Meckling, 1976). However, more recent studies show that well-dispersed ownership is relatively rare outside of the U.S. and Japan, and that large blockholders control most European and Asian companies.[1] In this broader setting, the central agency problem is the risk of controlling shareholder expropriation of minority investors, a phenomenon commonly referred to as "self-dealing" (Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2008) or "tunneling" (Johnson, La Porta, Shleifer, and Lopez-de-Silanes, 2000).

Although anecdotes of tunneling abound, the exact nature and scope of these activities are difficult to pin down. These difficulties stem from the many varied, and often subtle, ways that controlling shareholders can extract private benefits from the companies they run.[2] Perhaps because of these problems, economists usually measure the impact of tunneling indirectly, either through the price paid for corporate control, or from changes in firms' market valuation around specific

[1] Studies that examine corporate ownership structure in Asia and Europe include: La Porta, Lopez-de-Silanes, and Shleifer (1999), Claessens, Djankov, and Lang (2000), Claessens, Djankov, Fan, and Lang

(footnote continued)
(2002), Faccio and Lang (2002), Faccio, Lang, and Young (2001), and Johnson, Boone, Breach, and Friedman (2000).

[2] For example, prior studies have discussed such activities as advantageous transfer pricing to parties related to the controlling shareholder, executive perquisites, excessive compensation, loan guarantees, directed equity issuances, dividend policies, favorable lending terms, and outright theft of corporate assets (see Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, and Shleifer, 1999; Johnson, La Porta, Shleifer, and Lopez-de-Silanes, 2000; Faccio, Lang, and Young, 2001).

events.[3] While these studies have clearly established the *existence* of tunneling, they offer fewer specifics on how it is conducted, and why certain governance mechanisms designed to curb the problem might fail to deliver.

In this study, we investigate a particularly brazen form of tunneling that was widely practiced among Chinese firms during the 1996–2006 period. Specifically, we examine the use of intercorporate loans by controlling shareholders to siphon funds from publicly listed companies. Intercorporate loans are a useful instrument for this purpose because they are traceable through public sources, and do not require a "fair value" test, such as would be needed in other asset transfers between related parties. By examining the origination and settlement of these loans, we can directly examine tunneling flows to/from controlling blockholders and their surrogates.

The Chinese stock market is well-suited for a study on tunneling for several reasons. First, by virtue of heritage and design, all Chinese listed firms have a dominant/controlling shareholder. Second, the trading of controlling shares in China is highly restricted, thus limiting the ownership benefits of price appreciation to the controller, and increasing her incentive to obtain benefits through other channels. Third, the legal system in China offers few options for minority shareholders to take private enforcement action against blockholder misconduct. Fourth, public enforcement, including fines and prison terms for tunneling, has been hampered by the limited authority of security market regulators. For these reasons, modern day China is an environment highly conducive to tunneling behavior.

Our empirical analyses proceed along two lines. First, we show the scope of the problem, and assess its cross-sectional determinants and economic consequences. Second, we analyze the efficacy of legal and extra-legal mechanisms (including auditors, market participants, and regulators) in addressing this particular form of insider abuse.

Our results show that during 1996–2006, tens of billions in RMB were siphoned from hundreds of Chinese firms by controlling shareholders. Typically reported as part of "Other receivables" (OREC), these loans are found in the balance sheets of a majority of Chinese firms and collectively represent a large portion of their assets and market values. In our sample, OREC balances averaged 8.1% of total assets (5.4% of market capitalization, or 15.9% of the value of total tradable shares).[4] For firms in the top decile, OREC averaged 32% of total assets (21% of market capitalization, or 60% of the value of total tradable shares).

Using a hand-collected sample, we trace a substantial portion of these loans (between 30% and 40% of total OREC in the top three deciles) directly to controlling shareholders or their affiliates.[5] Unlike related lending by Mexican banks (La Porta, Lopez-de-Silanes, and Zamarripa, 2003), these loans were not made as part of the Chinese firms' normal course of business. Most of these loans did not accrue interest, and even when some interest was accrued, neither the interest nor the principal was typically ever paid back.[6]

We show that ORECTA (other receivable scaled by total assets) balances are larger for small firms (SIZE), more levered firms (LEV), less profitable firms (ROA), non-state-owned firms (STATE), and firms registered in regions that are less economically developed (MARKETIZATION), suggesting that the private benefits of insider tunneling are more likely to outweigh the costs in these firms. Among firms controlled by the state owned enterprises (SOEs), tunneling is more severe for local-government controlled firms (Local) than for firms controlled by the central-government (Central), suggesting that net incentives for tunneling are greater among local-government controlled SOEs. Finally, consistent with prior market-price-based studies (e.g., Claessens, Djankov, Fan, and Lang, 2002; Lemmon and Lins, 2003), we show that the OREC problem is most severe when the blockholder's controlling right (C) is much larger than her ownership right (O). That is, firms in which the controlling shareholder enjoys the lowest cash-flow ownership rights (i.e., firms with large C/O ratios) also have the largest ORECTA balances. This result is robust after controlling for all the other determinants of tunneling.

We also show significant negative economic consequences for the shareholders of firms with high ORECTA balances. Companies with large ORECTA balances exhibit worse future operating performance, both in terms of lower accounting rates-of-return and higher likelihood of entering financial distress. After controlling for current ROA, we find that the level of ORECTA is the single best predictor of next year's ROA. In addition, we show that high-ORECTA firms are far more likely to acquire ST (special treatment) status in the future.[7] Specifically, 14% of the top decile ORECTA firms attain ST status in 2 years, compared to an average of less than 2% in the bottom two deciles of firms. Ancillary tests indicate that although profitability and tunneling severity are negatively correlated, the causality is mainly unidirectional (i.e., sharp

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[3] Prior studies estimate tunneling from the premiums paid for controlling shares (Zingales, 1994; Dyck and Zingales, 2004; Nenova, 2003; and Atanasov, 2005); or from the market reaction to related-party transactions (Bae, Kang, and Kim, 2002; Baek, Kang, and Lee, 2006) or earnings (Bertrand, Mehta, and Mullainathan, 2002) within a commonly controlled business group; or from the relative price declines of firms with differing ownership structures during the Asian crisis (Lemmon and Lins, 2003).

[4] Tradable shares are the shares allowed to be traded on stock exchanges, and available to regular investors. On average, approximately 35% of all shares outstanding are tradable shares.

[5] This figure almost certainly understates the magnitude of the related-party portion of OREC, as many of the affiliates cannot be easily identified with the controlling entity. The problem is exacerbated by the pyramidal structure of Chinese listed companies, which can obscure related-party relationships (see Fan, Wong, and Zhang, 2005).

[6] Later, we describe in detail how the practice of tunneling through intercorporate loans finally ended in December 2006 after a long series of government rules and directives (see Appendix C).

[7] Market regulators assign ST status to any firm that has had two consecutive annual losses (or whose book value is negative). ST stocks are "on probation" and operate under various trading and financial restrictions. If they report one more annual loss, trading will be suspended; a fourth loss will result in delisting. Because Chinese firms rarely go into actual bankruptcy, ST status can be regarded as a comparable measure of financial distress.

increases in tunneling precede significant profitability declines, and not vice versa).

Further tests indicate that market participants do not seem to fully anticipate these negative consequences. We find that the market uses a higher implied discount rate in valuing the earnings of high-ORECTA firms, suggesting a general awareness of the problem. However, we also find that high-ORECTA firms earn lower risk-adjusted returns in the subsequent 12 months, indicating that the negative implications of these loans are not fully incorporated into prices. A hedge portfolio that sells the top-decile ORECTA firms and buys the bottom decile earns over 1% per month over the next 12 months. This result is robust to the inclusion of a variety of risk controls.

We also provide some evidence on why various legal and extra-legal governance mechanisms might have been inadequate in containing this practice. First, we show that institutional ownership is a relatively small part of the Chinese market landscape, a fact that likely contributes to the persistence of the mispricing. The average ownership by mutual funds in our sample is only 1.33% of total shares outstanding (2.80% of tradable shares). As of the end of 2004, ownership by all institutional investors, including mutual funds, social security funds, and pension funds, is only 3.75% (8.26% of tradable shares). Interestingly, we find that institutional ownership is highest among low-ORECTA firms, suggesting these institutions tend to avoid owning high-ORECTA firms. Evidently these investors do take ORECTA balances into account when selecting stocks, but their collective effect on pricing is limited.[8]

Second, we examine the mitigating role of auditors. Allen, Qian, and Qian (2005) suggest that a weak auditing profession is at least partially to blame for the relatively sluggish growth of China's listed sector. We find, however, that auditors in China play an active monitoring role. Firms with high-OREC balances are far more likely to receive a qualified opinion—in fact a full 45% of the firms in the highest ORECTA decile received an unclean opinion in the reporting year. Unfortunately, firms receiving a qualified opinion in 1 year exhibit no tendency to reduce their OREC balance in the following year. This evidence is consistent with the view that when private enforcement channels are weak or unavailable, disclosure alone is not enough to curb insider abuse.[9]

Finally, we report on the constraints that market regulators in China operate under. We show that a string of security regulations issued between 2001 and 2006 (see Appendix C) was largely ignored, primarily because market regulators had no jurisdiction over the controlling entities (which themselves were typically unlisted). It took a joint statement by eight government ministries, threatening public disclosure and personal action against top management of the controlling entities, to finally stop the abuse. This unusual show of political resolve finally resulted in the repatriation of most of the remaining OREC balances—which, even as late as 2006, amounted to close to 50 billion RMB, and involved over one-third of all listed firms.

Overall, our findings provide a portrait of the nature and severity of the tunneling problem in China, and new insights on why existing legal and extra-legal governance mechanisms were inadequate to contain this practice. Our evidence shows that in certain settings, public disclosure alone is not enough, i.e., when minority shareholders have no legal recourse and when security regulators have limited jurisdiction over the controlling entities, even an extremely transparent form of tunneling can persist for many years. These findings have implications for the literature on the regulation of insider abuse (e.g., Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2008; La Porta, Lopez-de-Silanes, and Shleifer, 2006). Specifically, they argue for increased legal, rather than extra-legal, regulatory measures in curbing Chinese insider abuse.

Looking ahead, we note that the tunneling problem in China has stubborn roots. Although this specific form of abuse has been eradicated, the incentives that gave rise to the tunneling are largely intact (in fact, recent reform has increased the C/O ratio of most Chinese firms, potentially exacerbating the problem). Until these root tensions are more fully addressed, insider tunneling will pose an ongoing challenge to reform in China. In the meantime, we believe researchers interested in understanding managerial and investor behavior in China would do well to keep the tunneling perspective in mind.

The remainder of this paper is organized as follows. Section 2 provides a review of related research as well as background information on the Chinese stock market. Section 3 presents our empirical analysis, and Section 4 concludes with a discussion of the implications of our findings.

2. Literature review and institutional background

2.1. Private benefits of corporate control

The value of controlling rights over corporate resources has come to play a central role in modern thinking about finance and corporate governance. Early theoretical work by Grossman and Hart (1988) has evolved into a substantial literature under the euphemistic label "private benefits of control" (Hart, 1995; Zingales, 1994). In fact, the extensive literature on investor protection and its role in the development of financial markets (e.g., La Porta, Lopez-de-Silanes, and Shleifer, 2000) is focused on the problem of insider tunneling and its containment in international settings.

A number of prior studies have estimated the magnitude of these private benefits through the premiums paid for voting rights (Zingales, 1994; Nenova, 2003; Dyck and Zingales, 2004; Atanasov, 2005). The estimates from these studies range widely, but are often on the order of 25% or more of the value of firms, particularly in countries with

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[8] Short-selling is not allowed in China, which further limits the ability of informed investors to discipline the price of high-ORECTA firms.

[9] For good discussions on alternative approaches to the regulation of tunneling activities, see La Porta, Lopez-de-Silanes, and Shleifer, 2006 and Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).

less developed capital markets.[10] Another approach is to infer tunneling by linking ownership structure to prices paid in related-party transactions, or changes in firm equity value under special settings.[11]

Compared to prior studies, our approach has certain advantages and limitations. By using a direct measure of tunneling that is independent of firm value, we are able to gauge the prevalence of the phenomenon across all listed firms (not just firms with particular ownership structures or within related business groups). We are also able to provide much more detail and color on how tunneling is actually accomplished, as well as conduct more detailed tests, including asset pricing tests, on the causes and consequences of tunneling. Finally, because our measure of tunneling is reported at regular intervals, we are able to evaluate the response of various parties (such as auditors, institutional investors, and market regulators), and thus, infer something about the efficacy of alternative governance mechanisms.

The main limitation of our approach is that we only examine one particular form of tunneling. Compared to the control premium literature, for example, which provides an estimate of the *total maximum private benefits* for control, our evidence provides a *minimum direct measure of tunneling*. Our measure is more interpretable as clear evidence of tunneling, but the magnitude of the overall problem is almost certainly greater than our estimate. Therefore, while prior evidence establishes a "ceiling" for the total economic impact of tunneling, our evidence establishes a "floor" for Chinese firms. Our point is that, even with this minimal estimate, the scale (and reach) of the tunneling problem in China is impressive, and merits further study.

2.2. Salient features of the Chinese stock market

The Chinese stock market is conducive to tunneling for several reasons. First, all Chinese listed firms have a dominant shareholder. In the early 1990s, under a "partial privatization" initiative, the Chinese government allowed state-owned enterprises (SOEs) to sell a minority portion of ownership to private investors. This led to the creation of China's two stock exchanges: Shanghai (in 1990) and Shenzhen (in 1991). By the end of 2004, the number of listed stocks reached 1377 with a total market capital of 3706 billion RMB. Most of these firms are carve-outs or spin-offs from an existing state-owned enterprise (SOE), in which the original SOE retains a substantial blockholding. Indeed, the Chinese government has been explicit in requiring that control of these listed companies not be relinquished.[12]

Second, the trading of block shares is highly restricted. During our study period, common stocks in China were classified into two groups: tradable or non-tradable (also called negotiable vs. non-negotiable).[13] Shares owned by all levels of government, state agencies (such as universities), and other legal entities, are non-tradable. The rest of the shares are sold to individual citizens and institutional investors, and are tradable.[14] As of February 2005, non-tradable shares accounted for 63.51% of all outstanding stock. Approximately 70% of all non-tradable shares were held by state-owned enterprises.

Third, minority shareholders have few private channels through which to take actions against insider misconduct. Courts in China have had a long tradition of protecting state interests and have little experience with private plaintiff-driven litigation (Allen, Qian, and Qian, 2005; MacNeil, 2002). At the same time, Chinese listed firms face few external governance mechanisms (such as takeovers or other forms of investor activism) that might deter blockholder misconduct. Institutional ownership, particularly by mutual funds, is also low among Chinese firms, thus limiting the disciplining effect of these investors on share prices. In addition, as we illustrate later, the public enforcement mechanism in China is constrained by the limited authority of security market regulators.

In sum, the confluence of: (1) highly concentrated ownership structures, (2) limited ownership benefit for blockholders from price appreciation, and (3) absence of legal/extra-legal mechanisms to curb blockholder abuse, have together created an environment in modern China that is highly conducive to tunneling.

2.3. Other related studies

Our study is also related to recent studies that examine corporate governance and earnings management in China.

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[10] Zingales (1994) shows that in Italy private benefits of control are substantial and can easily exceed 60% of the value of nonvoting equity. Nenova (2003) measures the value of corporate voting rights in 18 countries and shows that much of the variation can be explained by the legal environment, law enforcement, investor protection, takeover regulation, and corporate charter provisions. Dyck and Zingales (2004) estimate the private benefits of control across 39 countries and find that higher private benefits of control are associated with less developed capital markets, more concentrated ownership, and more privately negotiated privatizations. Atanasov (2005) uses mass privatization auction data from Bulgaria to show investors will pay substantially more for a controlling stake.

[11] Bae, Kang, and Kim (2002) use evidence from mergers by Korean business groups to show that acquisition prices tend to enhance the value of other firms in the group, to the detriment of minority shareholders. Bertrand, Mehta, and Mullainathan (2002) use earnings data on Indian business groups to show evidence consistent with tunneling by the largest shareholder within the group. Finally, Lemmon and Lins (2003) show a relation between ownership structure and the decline in firm value during the Asian financial crises.

[12] In our sample, the percentage of shares controlled by the largest shareholder for the median firm is 42.6%; the interquartile range is 29%–58%. In the summary section, we discuss the Chinese government's expressed intent to retain control of listed firms, particularly in key industries.

[13] Prior to 2005, all block shares are non-tradable. In July 2005, the Chinese government announced a policy aimed at eventually converting these restricted shares into tradable shares. This initiative is part of a broad reform program that will take years to implement. Later, we discuss why this initiative is unlikely to fully resolve the agency problems that lead to tunneling in China.

[14] The tradable shares are further subdivided into Tradable-A shares, which are publicly traded among domestic investors, and *foreign* (B, H, and N) shares. B-shares are available to foreign investors and are traded on the two domestic exchanges, whereas H and N shares have an overseas listing. In this study, the market price of a listed company refers to the price of its Tradable-A shares.

Several papers have shown weaknesses in the country's legal and financial systems (e.g., see Liu, 2006; Allen, Qian, and Qian, 2005; Fan, Wong, and Zhang, 2007; Cheung, Jing, Rau, and Stoutaitis, 2006), and the mitigating effect of regulatory changes (Bai, Liu, Lu, Song, and Zhang, 2004; Berkman, Cole, and Hu, 2005). A consistent theme is that better corporate governance is valuable in China's emerging economy, and improvements in governance are rewarded in market valuations. A second group of China studies explored the effect of ownership structures on earnings management in Chinese firms (Liu and Lu, 2007; Chen, Lee, and Li, 2003; Peng, Wei, and Yang, 2006; Jian and Wong, 2010). Several of these studies show a phenomenon called "propping," in which the controlling shareholder instigates favorable asset-related transfers so as to meet key performance targets stipulated by market regulators.

We believe the economics of tunneling provide an important organizing framework for interpreting these results. Controlling shareholders will sometimes "prop up" the earnings of a firm through favorable asset transfers, precisely because such actions are needed to facilitate and sustain long-term tunneling. In the absence of tunneling incentives, such costly forms of earnings management are difficult to understand.[15] Similarly, much of the governance literature is only understandable in the presence of tunneling risk. Improved governance is highly valued in China precisely because of the real and imminent threat of insider abuse, and the dearth of other effective enforcement mechanisms. Again, it is tunneling that helps us to understand these findings. In short, our study helps to make sense of earlier results by demonstrating the importance of adopting a tunneling perspective when studying managerial behavior in China.

Problems with loans to related parties are, of course, not unique to China. In the United States, a landmark tunneling case involved credit facilities from Adelphia Communications to members of the controlling Rigas family. In Australia, intercorporate loans helped to facilitate the building (and later undoing) of the Alan Bond empire.[16] During the Asian crisis, many firms that experienced the worst price declines made related-party loans (Lemmon and Lins, 2003). Similarly, when Mexican banks lend to firms controlled by the banks' owners, the lending tends to take place on better terms but is more likely to default (La Porta, Lopez-de-Silanes, and Zamarripa, 2003). We show that insiders' use of intercorporate loans to siphon funds reached unprecedented proportions in China. We examine the causes and consequences of this phenomenon, and why various governance mechanisms failed to fully mitigate the problem.

3. Empirical analysis

3.1. Sample description

Our sample consists of 1377 public companies, listed on the Shanghai and Shenzhen stock exchanges during the period 1996–2004. We use the CCER China Stock Database, provided by SinoFin Information Services, to obtain fundamental variables, price, and returns information. To be included in our sample, a company must have been listed for at least 1 year, and have filed the necessary financial information required for our analysis. Collectively, as of the end of 2004, our sample of companies represents 85.6% of the total listed firms (85.2% of the total market capitalization) in China.[17]

Table 1 presents some descriptive statistics for our sample. In total, we have 7557 firm-year observations. Chinese firms all have December year-ends, and the financial information for year t is based on fiscal year-end $t-1$ financial reports. Panel A reports the log of total assets (SIZE); market capitalization as of the fourth month after the fiscal year-end in millions of RMB (MV); the total market value of tradable shares (TMV); the book-to-market ratio measured four months after the fiscal year-end (BM); total leverage, defined as total liabilities divided by total assets (LEV); return-on-assets, defined as pre-extraordinary income divided by total assets (ROA); the percentage of shares controlled by the largest shareholder (BLOCK); other receivables in RMB millions (OREC); as well as other receivables deflated by market capitalization (ORECMV), tradable market value (ORECTMV), and total assets (ORECTA). All variables are winsorized at 1% and 99%.[18]

Panel A shows that the average market capitalization for our sample is 3.15 billion RMB (approximately 381 million U.S. dollars, using the prevailing exchange rate of 8.27 during our sample period). Most of these firms traded at a multiple of 2.5–5.0 times book value (BM), and had reported ROAs of between 1% and 6%. Of particular interest is that most had substantial "Other receivables" on their balance sheets (ORECTA)—the interquartile range for this variable is between 1.7% and 10.8% of total assets (2.6–17.5% of tradable market value). As expected, the largest shareholder controls a substantial portion of these firms; the interquartile range for the BLOCK variable is 29.2–58.2%.

Panel B reports year-by-year statistics for ORECTA. This panel shows that other receivable, as a percent of total assets, has been on the decline over the sample period. As we show later, the decline coincides with a concerted campaign by the China Securities Regulatory Commission

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[15] In fact, both Jian and Wong (2010) and Liu and Lu (2007) find that the pattern of earnings management observed among Chinese firms is consistent with an abiding desire to facilitate and sustain long-term tunneling.

[16] See Van Peursem, Zhou, Flood, and Buttimore (2007) for a detailed analysis of both the Adelphia and Bond cases.

[17] Throughout the paper, market capitalization (MV) refers to the value of tradable shares multiplied by total shares outstanding, both tradable and non-tradable. TMV refers to the market value of the tradable shares alone.

[18] All key results are robust to alternative winsorization techniques, including cross-sectional winsorization each year, winsorizing the entire sample, and no winsorization.

Table 1
Descriptive statistics of sample firms, 1996–2004.

This table presents firm characteristics for our sample of 7557 firm-year observations from 1996 to 2004. Our sample includes firms that are listed in China's stock market for at least 1 year and have necessary financial data used in our analyses. Chinese firms all have December year-ends and financial information for year t is based on fiscal year-end $t-1$ financial reports. SIZE is the log of total assets; MV is market capitalization of the stock at the end of the fourth month after the fiscal year-end (in million RENMINBI); TMV is market value of tradable market shares; BM is book-to-market ratio; LEV is leverage, defined as total liabilities divided by total assets; ROA is return on assets; BLOCK is the percentage of shares controlled by the largest shareholder; OREC is other receivables (in million RENMINBI); ORECMV is other receivables deflated by market value of equity; ORECTMV is other receivables deflated by market value of tradable shares; ORECTA is other receivables deflated by total assets. We have winsorized all variables at 1% and 99%.

Variable	N	Mean	Median	Std. dev.	Q1	Q3
Panel A: firm characteristics						
SIZE	7557	20.966	20.901	0.883	20.363	21.528
MV	7557	3150	2191	3324	1352	3589
TMV	7557	1091	765	1227	465	1302
BM	7557	0.331	0.276	0.223	0.180	0.421
LEV	7557	0.455	0.455	0.177	0.329	0.581
ROA	7557	0.028	0.034	0.063	0.010	0.058
BLOCK	7538	0.437	0.426	0.173	0.292	0.582
OREC	7557	123	56	362	21	131
ORECMV	7557	0.054	0.026	0.087	0.009	0.061
ORECTMV	7557	0.159	0.072	0.268	0.026	0.175
ORECTA	7557	0.081	0.048	0.093	0.017	0.108
Panel B: ORECTA by year						
1996	287	0.102	0.086	0.079	0.045	0.131
1997	502	0.117	0.093	0.097	0.046	0.160
1998	702	0.111	0.085	0.093	0.040	0.157
1999	804	0.109	0.075	0.108	0.035	0.139
2000	894	0.098	0.059	0.109	0.025	0.125
2001	1007	0.071	0.039	0.087	0.016	0.091
2002	1055	0.065	0.035	0.082	0.012	0.081
2003	1127	0.056	0.029	0.074	0.010	0.069
2004	1179	0.057	0.024	0.082	0.008	0.067

(CSRC) to reduce these loans.[19] Nevertheless, even by the end of 2004, the median firm still reported an "Other receivable" balance representing 2.4% of total assets. By definition, these loans are not part of ordinary business transactions, and a casual survey of the financial footnotes shows that they are typically made to related parties, often associated with the largest shareholder. However, this account also can contain miscellaneous receivables from parties not immediately identifiable with the controlling blockholder.

Appendix A presents a case study that illustrates the problem. The HANQI Group is the largest shareholder of FENG HUA Co., holding a bit less than 30% of its shares. From early 2002, the HANQI Group (including its subsidiaries HANQI Real Estate, and Beijing HANQI) "borrowed" large amounts of money from FENG HUA. Appendix A contains excerpts from FENG HUA's financial statements. To gain a sense for the magnitude of these borrowings, on December 31, 2002, HANQI's share of equity in FENG HUA is RMB 116.21 million. On that date, it and its subsidiaries borrowed from FENG HUA a total of RMB 198.6 million. FENG HUA never recovered any of the money due from HANQI Group or its subsidiaries. Subsequently, FENG HUA stock was put into special treatment (ST) status as a result of reporting two consecutive annual losses.

The money that large shareholders owe the listed company is included in a data item called "Other receivables" (OREC), which in this instance also included several other large items not directly traceable to HANQI. Unlike trade receivables, which are separately reported under the customary title of "Accounts receivables," these corporate borrowings are not part of ordinary business transactions, and are thus separately flagged in the report.

3.2. Large shareholders and OREC

To better understand the extent to which "other receivables" is used as a vehicle for large shareholder tunneling, we secured hand-collected data used by Ye (2006). From financial footnotes, Ye derived other receivables due from controlling shareholders and its affiliated companies for all manufacturing firms listed in the Shanghai Stock Exchange between 1999 and 2002 (a sample of 1134 firm-years, or approximately 30% of our full sample during these years). For each year between 1999 and 2002, we sort all listed Chinese firms annually into ten deciles based on ORECTA (full sample). We then use the Ye (2006) data to examine the proportion of OREC in each decile directly traceable to the majority shareholder and its affiliates.

Appendix B reports the number of firm-years in Ye (2006) captured by each ORECTA decile in our full sample. Column 3 shows that the Ye sample is quite evenly spread out over our full sample. Column 4 shows that the average

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[19] Appendix C shows that the CSRC tried to curb these practices as early as 2001, but its early efforts were largely ignored.

ORECTA balance from the Ye sample also closely approximates the average for the full sample. Columns 5 and 6 report the total gross OREC and the large shareholder gross receivable (LSH gross OREC) derived from the Ye (2006) data set, and Column 7 reports large shareholder OREC as a percentage of total gross OREC.

Overall, this evidence shows that a substantial portion of OREC is directly traceable to the largest shareholder and its affiliates, particularly for firms in the high-ORECTA deciles. For example, firms in the top three deciles by ORECTA (full sample) have 30% to 40% of its OREC balance directly traceable to the majority shareholder or affiliates. Moreover, the proportion owed by large shareholder decreases monotonically across the ORECTA deciles, further indicating that the problem of large shareholder tunneling is also likely to decrease in severity in the lower ORECTA deciles.[20]

As a final check, we compared our OREC measure to the amount of intercorporate loans to controlling shareholders reported in an official list of 189 firms identified by the Shanghai and Shenzhen Stock Exchanges on June 1, 2006. These 189 firms were flagged by the two exchanges as those in which the problem of controlling shareholder tunneling is most severe. We collected the amount of OREC from the 2005 annual reports of these 189 firms, and found the Pearson correlation between our OREC measure and the amount of large shareholder OREC reported on this official list to be 73.7%. Moreover, 43.75% of these firms were in the highest 2005 ORECTA decile, and nearly 90% were in our top four ORECTA deciles.

The evidence thus far strongly suggests that by ranking firms using ORECTA, we have a good empirical proxy for the degree of intercorporate lending to the controlling shareholder and its affiliates. In the following analyses, we aim to better understand the nature and economic consequences of these loans.

3.3. The persistence of ORECTA

To better understand the nature of these receivables, we sort firms into ten deciles based on ORECTA, and trace the evolution of this variable through time. Fig. 1A reports the mean ORECTA for each decile in year t through $t+3$, and Fig. 1B reports the average decile ranking for the same 4-year horizon.

The main result from these analyses is that cross-sectional rankings of firms by ORECTA tend to be quite persistent over time. In other words, firms with larger (smaller) "Other receivable" balances tend to remain in the upper (lower) end of the ORECTA over the next 3 years. For firms in the highest ORECTA decile in year t, the average "Other receivable" in year $t+3$ is still 20% of total assets. This evidence is consistent with the long-term nature of the receivables. Specifically, it suggests that the receivable is a more or less permanent part of the companies' portfolio of reported assets. Cast in a different light, this evidence shows that listed Chinese companies are routinely engaged in the practice of extending long-term credit in large quantities to their largest shareholder.

3.4. Economic consequences

In this section, we explore the economic consequences of large OREC balances. Specifically, we examine the implications of large ORECTA balances for firms' future operating performance and the likelihood of experiencing financial distress.

Table 2 Panel A reports the results of a regression in which the dependent variable, FROA, is the year $t+1$ return on asset. Independent variables include the current year return-on-asset (ROA), and a rank variable, R_ORECTA, the scaled decile rank of ORECTA (i.e., R_ORECTA=1 for firms in the highest ORECTA decile, and =0 for firms in the lowest decile). In addition, we use a number of other control variables: LEV is the total liability divided by total assets, SIZE is log of total assets, NEG is a dummy variable, which takes the value of one if current year net income is negative, and zero otherwise; we also control for firm and year fixed effects.[21] The results show that R_ORECTA has a strong negative relation to future ROA, after controlling for other variables (t-statistic$=-8.5$). In other words, controlling for current ROA, higher ORECTA firms earn lower future ROA. The difference between top and bottom decile ORECTA firms' expected ROA is 4.9%.

In Table 2 Panel B, we use a logit model to estimate the effect of ORECTA on the probability of firms becoming "Special treated" (attaining ST status) in year $t+3$. For this analysis, the dependent variable is a dummy variable, which is one if the firm was specially treated, and zero otherwise. Independent variables include R_ORECTA and other control variables for predicting financial distress. ROA is operating income divided by total assets, ATURN is asset turnover, SG is sales growth from the last year, OCF is operating cash flow divided by total assets, NONOPERAT is non-operating income deflated by total assets, and BLOCK is the percentage of shares held by the largest shareholder. Because we use variables in year t to predict special treatment in $t+3$, our sample size in Panel B reduces to 5668 observations.[22]

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[20] To further ascertain the extent to which the Ye (2006) sample is representative of the full sample, we checked a number of other firm characteristics. The details are not reported but are available on request. In brief, the Ye firms are not significantly different from the rest of the firm-years in our sample in terms of Size, BM, and ROA. However, the Ye sample shows slightly higher state ownership (34.95% versus 31.55%) and lower ORECTA (7.67% versus 8.88%). In the current context, these differences are likely to understate the extent to which ORECTA is attributable to the majority shareholder and its affiliates in the Ye sample.

[21] None of the main results are affected if we only control for annual fixed effects (i.e., exclude firm fixed-effect-indicator variables). Also, we obtain very similar results if we use return-on-sales (ROS) rather than return-on-assets (ROA) as the performance metric in this analysis.

[22] We predict ST status for year $t+3$ because firms that attain this status will have reported two consecutive years of losses. We skip two years to avoid a look-ahead bias. As a robustness check, we also used year $t+2$ and $t+4$ ST status as the dependent variable and found similar results.

Panel B reports the results of two logit models. In the first regression, we use all the independent variables except R_ORECTA. The results show that ROA, ATURN, LEV, OCF, SIZE, and BLOCK all have some incremental power to predict future ST status. In the second regression, we add R_ORECTA to the model, and find that it has a strongly positive coefficient. In fact, aside from current year ROA, R_ORECTA is the single most important predictor of subsequent ST status.

Fig. 2 provides a graphic illustration of this result. To construct this figure, we sort firms annually into ten deciles based on the magnitude of their reported ORECTA. This figure depicts the proportion of firms in each decile that received ST status 2 years after the formation of the deciles. The results show a high proportion (14%) of the firms in the top ORECTA decile in year t will receive ST status in year $t+3$. This compares to an average of around 4%–5% for the rest of the sample. The next two ORECTA deciles also exhibit a higher than average tendency to receive ST status.

Overall, these results show that firms with high ORECTA balances perform worse in terms of operating performance, and are much more likely to become candidates for delisting in future years. In the next section, we examine the extent to which market prices reflect these adverse consequences.

3.5. Market pricing and returns prediction

Table 3 presents an analysis of the impact of tunneling on firm valuation. The dependent variable for this analysis is MVTA, defined as the market value of the firm at the end of the fourth month after fiscal year-end, deflated by total assets. The independent variables are as defined in Table 2, except for: BVTA, defined as book value deflated by total assets, and ROA_ORECTA, an interaction term. To compute this last variable, we multiply ROA by R_ORECTA. To the extent that the market applies a greater discount to the earnings of high-ORECTA firms, we would expect the coefficient on ROA_ORECTA to be negative. Once again, we include dummy variables to control for firm and year fixed effects.

The results show that this is indeed the case. As expected, the coefficients on both BVTA and ROA are
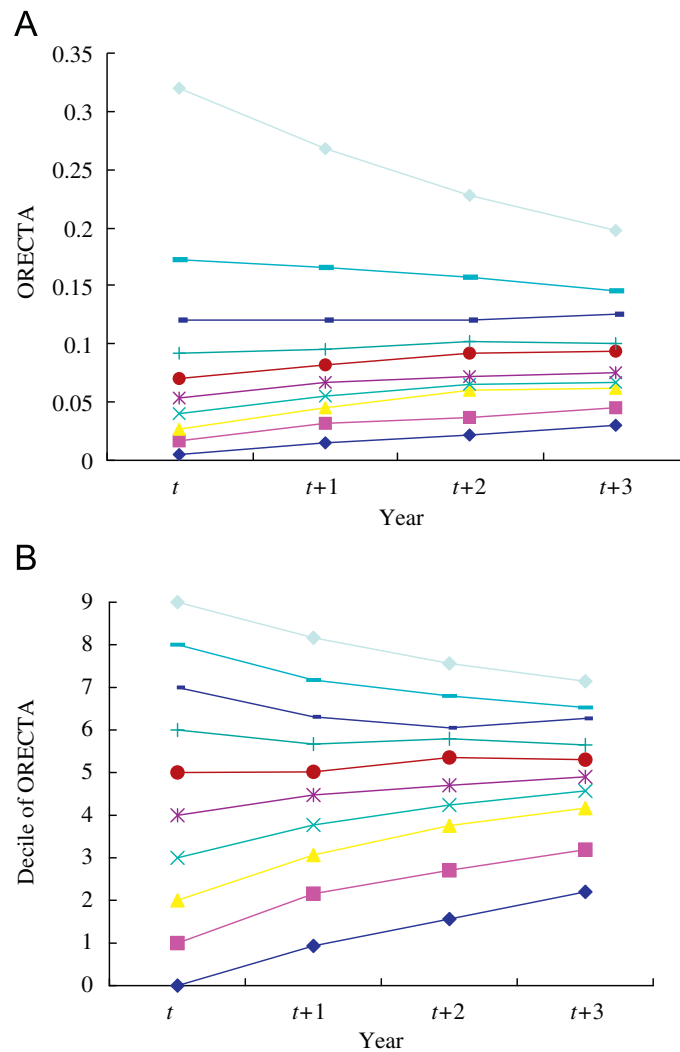
Fig. 1. The time-series behavior of ORECTA. Between 1996 and 2004, in each year (t) we sort firms into ten deciles based on other receivables as a percentage of total assets (ORECTA). From the lowest ORECTA decile to the highest, each decile is assigned a ranking from zero to nine. We then trace the level (Fig. 1A) and the rankings (Fig. 1B) of ORECTA of each decile for the future 3 years.

Table 2
Other receivables as a predictor of future operating performance and the probability of becoming "specially treated".

This table examines the economic consequences of large shareholder tunneling. In Panel A, we regress FROA, defined as return of assets in year $t+1$, on ROA of year t, R_ORECTA in year t, and other control variables. LEV is total liability divided by total assets, SIZE is log of total assets, NEG is a dummy variable, which equals one if current year net income is negative, and zero otherwise. R_ORECTA is a rank variable based on annual ranking of ORECTA into ten deciles, and is scaled to be between zero and one. In Panel B, we use a logit model to estimate the effects of ORECTA on the probability of firms becoming "specially treated" 2 years later. A firm is specially treated (ST) if it reports two consecutive annual losses. ST stocks suffer various trading and financing constraints. The dependent variable is a dummy variable, which equals one if the firm was specially treated, and zero otherwise. Independent variables include R_ORECTA and other controlling variables for predicting financial distress. ATURN is asset turnover, SG is percentage sales growth from the previous year, OCF is operating cash flow divided by total assets, NONOPERAT is non-operating income deflated by total assets, and BLOCK is the percentage of shares held by the largest shareholder. Because we use variables in year t to predict special treatment status in $t+3$, our sample size in Panel B reduces to 5668 observations.

Panel A: the usefulness of ORECTA in predicting future ROA			
	Coefficients	t-Statistics	p-Value
INTERCEPT	0.772	6.740	< 0.0001
ROA	0.301	9.930	< 0.0001
R_ORECTA	−0.049	−8.510	< 0.0001
LEV	0.020	1.660	0.096
SIZE	−0.029	−8.390	< 0.0001
NEG	−0.022	−4.100	< 0.0001
Fixed effects	Firm and year		
Obs: 7557			
ADJ-R^2: 41.41%			

Panel B: logit model, where the dependent variable is the probability of a firm being in special treatment status in year $t+3$						
	Coefficient	χ^2	p-Value	Coefficient	χ^2	p-Value
INTERCEPT	2.403	0.004	0.948	0.132	0.000	0.997
R_ORECTA				1.428	26.705	< 0.0001
ROA	−28.787	72.547	< 0.0001	−26.101	58.431	< 0.0001
ATURN	−1.120	17.798	< 0.0001	−0.981	13.795	0.000
LEV	1.425	10.337	0.001	1.121	6.173	0.013
SG	−0.227	2.712	0.100	−0.213	2.475	0.116
OCF	−2.582	7.778	0.005	−1.988	4.500	0.034
NONOPERAT	−2.560	0.161	0.688	−3.398	0.292	0.589
SIZE	−0.234	7.156	0.008	−0.167	3.520	0.061
BLOCK	−1.146	7.769	0.005	−0.838	4.006	0.045
Fixed effects	Industry and year			Industry and year		
Observations: 5668						
Psudo-R^2:	4.88%			5.36%		
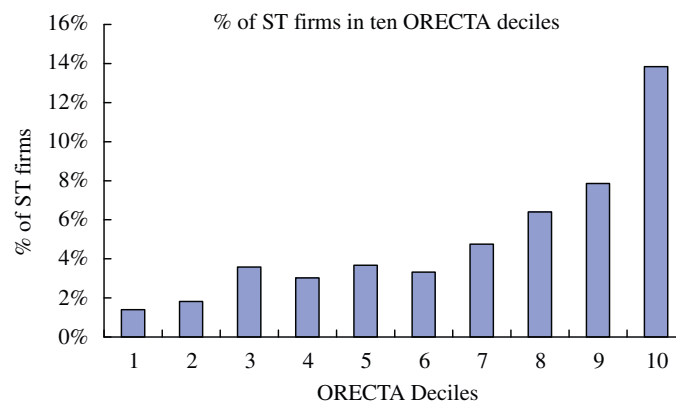
Fig. 2. The proportion of firms in each ORECTA decile that attains ST (special treatment) status 2 years later. Chinese listed firms that have had two consecutive annual losses receive "special treatment" or "ST" status. ST stocks are under various trading and financial restrictions, and if an ST stock reports one more loss year, it will be delisted. Because Chinese firms rarely go bankrupt, ST can be regarded as an equivalent financial distress metric. Between 1996 and 2004, we sort firms annually into ten deciles based on the magnitude of their reported ORECTA (other receivables as a percentage of total assets). This figure depicts the proportion of firms in each decile that received ST status 2 years after the formation of the deciles. That is, we form the portfolios in year t, and observe whether this firm is specially treated in year $t+3$.

positive. The coefficient on R_ORECTA is, surprisingly, not significant in Model 1 and reliably positive in Model 3, suggesting that the market does not generally value high-ORECTA firms at a discount. However, the coefficient on ROA_ORECTA is reliably negative in both Models 2 and 3. The coefficient estimates from Model 2 indicate that for the highest ORECTA decile firms, the market assigns an average multiple of just 4.0 to reported earnings

Table 3

The relation between other receivables and firm valuation.

This table examines whether market prices take into consideration the negative impact of a large ORECTA balance on future operating performance. The dependent variable is MVTA, defined as market value of the firm at the end of fourth month after fiscal year-end, deflated by total assets. The independent variables are: BVTA, defined as book value deflated by total assets; ROA, defined as the return on total assets; NEG, a dummy variable that equals one if current year net income is negative, and zero otherwise; LEV, total liability divided by total assets; SG, percentage sales growth from the previous year; SIZE, log of total assets; BLOCK, the percentage of shares held by the largest shareholder; R_ORECTA, the scaled decile rank of ORECTA (i.e., R_ORECTA=1 for firms in the highest ORECTA decile, and =0 for firms in the lowest decile); and ROA_ORECTA, an interaction term computed by multiplying ROA by R_ORECTA. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively. All regressions include firm and year fixed effects.

Dependent variable: MVTA			
	Model 1	Model 2	Model 3
INTERCEPT	19.924***	20.470***	19.808***
R_ORECTA	−0.010		0.357***
ROA_ORECTA		−9.835***	−11.865***
BVTA	0.728*	0.567	0.659*
ROA	9.301***	13.804***	15.155***
NEG	1.060***	0.843***	0.810***
LEV	−0.541	−0.569	−0.545
SG	0.002	0.002	0.002
SIZE	−0.886***	−0.905***	−0.885***
BLOCK	0.201*	0.092	0.159*
Fixed effects	Firm and year	Firm and year	Firm and year
No. of observations	7557	7557	7557
Adjusted R^2	50.51%	51.56%	51.77%

(13.8—9.8). Conversely, for low-ORECTA firms, the multiple on earnings is 13.8.

Table 4 examines the usefulness of ORECTA in predicting future returns. Panel A presents future monthly size-adjusted returns (in percentage) for deciles formed on ORECTA. In each year between 1996 and 2004, we sort firms into ten deciles based on ORECTA. We then compute future returns beginning from May 1 (year t+1) through April 30 (year t+2). Table values in the first column (EW-ADJ) represent the average monthly equal-weighted size-adjusted returns for each portfolio.[23] Table values in column 2 (FF-ADJ) are the intercept terms from time-series regressions of each portfolio's monthly returns on the returns from three factor-mimicking portfolios (MKT, SMB, HML), constructed in the same manner as Fama and French (1993), but using Chinese data.

In Panel B, we compute risk-adjusted returns using the Fama and MacBeth (1973) procedure. Specifically, every month we regress monthly returns on R_ORECTA, R_MV (scaled decile rank of market value at the end of April (t+1)), R_BM (scaled decile rank of the book-to-market ratio), R_STDRET (standard deviation of daily returns during the month prior to portfolio formation), and R_LEV (scaled decile rank of leverage, defined as total liability divided by total assets). Each of the control variables has been associated with future realized returns

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[23] To compute size-adjusted returns, we subtract the average return for the firms in the same size decile each month. Size decile returns are as reported by the CCER database.

Table 4

The usefulness of other receivables in returns prediction.

This table examines the usefulness of ORECTA (Other receivables deflated by total assets) in predicting future returns. Panel A presents future monthly returns (in percentage) for deciles formed on ORECTA. In each year between 1996 and 2004, we sort firms into ten deciles based on ORECTA for year t. EW-ADJ represents the average monthly equal-weighted returns for each portfolio, computed from May 1 (year t+1) through April 30 (year t+2), FF-ADJ represents the intercept term from regressing the monthly returns of each portfolio on three factor-mimicking portfolios (MKT, SMB, HML) constructed from all Chinese stocks using the Fama-French (1993) methodology. Panel B presents Fama-MacBeth cross-sectional regressions of monthly returns on R_ORECTA, R_MV (Market value), R_BM (book-to-market), R_STDRET (standard deviation of daily returns during the month prior to portfolio formation), and R_LEV (total liability divided by total assets). The four independent variables are decile ranks based on annual ranking of ORECTA, MV, BM, and LEV, and monthly ranking of STDRET, respectively, scaled to be between zero (lowest decile) and one (highest decile). In total, there are 108 months. Panel B reports the mean of these monthly coefficients and the t-statistics associated with their time-series variation.

Panel A: returns of portfolios based on ORECTA			
Group	Observations	EW-ADJ	FF-ADJ
1	8978	0.395	0.177
2	9039	0.343	0.206
3	9065	0.146	0.037
4	9051	0.170	0.124
5	9016	−0.074	−0.152
6	9042	0.189	0.184
7	9061	−0.096	−0.189
8	9001	0.008	0.004
9	9023	−0.321	−0.370
10	8825	−0.619	−0.633
Hedge (1 − 10)		1.014	0.810
		t=7.36	t=5.75

Panel B: cross-sectional regression of monthly returns on R_ORECTA and other control variables			
	Coefficient	t-Statistics	p-Value
INTERCEPT	1.660	2.233	0.028
R_ORECTA	−0.722	−3.314	0.001
R_MV	−1.621	−2.957	0.004
R_BM	0.444	1.066	0.289
R_STDRET	−1.407	−3.129	0.002
R_LEV	0.315	1.800	0.075

in Chinese markets (e.g., see Eun and Huang, 2007). In total, there are 108 months. Panel B reports the mean of these monthly coefficients and the t-statistics associated with their time-series variation.

The evidence in both panels supports the view that ORECTA is negatively correlated with future returns. Panel A shows that low-ORECTA firms generally earn higher returns than high-ORECTA firms. The pattern is not monotonic across the deciles, but the difference in monthly returns between the top and bottom ORECTA firms (from 0.810% to 1.014% per month) is statistically significant. Panel B results show that this negative correlation with future returns is robust to the inclusion of market capitalization (MV), book-to-market (BM), idiosyncratic risk (STDRET), and leverage (LEV). In fact, R_ORECTA is the single most reliable predictor (by t-statistic) among the known factors.

Table 5 examines the consistency of this result year-by-year. Table values represent returns to a hedge

Table 5
Year-by-year hedge returns adjusted for different measures of risk.
This table presents average monthly abnormal returns for a trading strategy that buys an equal-weighted portfolio of firms in the lowest decile of ORECTA (other receivables deflated by total assets) and sells an equal-weighted portfolio of firms in the highest decile of ORECTA. Portfolio holdings are rebalanced annually and returns are computed from May 1 (year $t+1$) through April 30 (year $t+2$). We present year-by-year results as well as aggregated results for two sub-periods (the bull market of 1996–1999, and the bear market of 2000–2004). In computing abnormal returns, we use four different characteristic-based matching samples to adjust for alternative measures of risk. ARET1 is the hedge return where each firm's abnormal return is computed relative to a reference decile portfolio matched on the basis of its market value of tradable shares (MktCap); ARET2 is abnormal returns relative to portfolios formed on deciles of firm beta (Beta); ARET3 is relative to an equal-weighted market index (EW); ARET4 is relative to a value-weighted market index for tradable shares of both the Shanghai and Shenzhen markets (VW). ARET5 is the annual average of the monthly coefficients on R_ORECTA derived from monthly Fama-MacBeth regressions with control variables as described in Table 4 Panel B (FM). Reported t-statistics are based on the time-series variation in annual abnormal returns.

	ARET1 (MktCap)	ARET2 (Beta)	ARET3 (EW)	ARET4 (VW)	ARET5 (FM)
1996	0.406	− 0.171	− 0.049	− 0.049	0.271
1997	0.011	− 0.271	− 0.237	− 0.237	0.406
1998	0.633	0.444	0.546	0.546	0.004
1999	0.091	− 0.206	− 0.234	− 0.236	0.085
2000	0.873	0.615	0.624	0.629	0.535
2001	1.044	1.341	1.516	1.505	0.829
2002	1.226	1.419	1.833	1.924	1.217
2003	2.505	2.444	2.528	2.520	1.886
2004	0.065	0.514	0.654	0.608	1.263
Average	0.685	0.613	0.718	0.721	0.722
t-Test	2.454	1.909	2.091	2.076	3.246
1996–1999 Bull market	0.285	− 0.051	0.006	0.006	0.191
2000–2004 Bear market	1.143	1.267	1.431	1.437	1.146

strategy that buys the low-ORECTA decile portfolio and sells short the high-ORECTA portfolio. In computing abnormal returns, we use four different benchmarks to adjust for alternative measures of risk. ARET1 is the hedge return where each firm's abnormal return is computed relative to a reference decile portfolio formed on the basis of its market value of tradable shares (size-adjusted); ARET2 is abnormal returns relative to portfolios formed on deciles of firm beta (beta-adjusted); ARET3 is relative to an equal-weighted market index (EW-index-adjusted); ARET4 is relative to a value-weighted market index for tradable shares of both the Shanghai and Shenzhen markets (VW-index-adjusted); ARET5 is the annual average of the monthly coefficients on R_ORECTA derived from monthly Fama-MacBeth regressions with control variables as described in Panel B of Table 4 (FM-Adjusted). Reported t-statistics are based on the time-series variation in monthly abnormal returns.

Table 5 shows that high-ORECTA firms consistently underperform low-ORECTA firms regardless of the benchmark. The spread between the high- and low- ORECTA firms is most pronounced in the second half of the sample period (2000–2004). During this subperiod, high-ORECTA firms underperformed low-ORECTA firms by 1.14%–1.44% per month, depending on the benchmark. It is perhaps not surprising that tunneling schemes tend to unravel in bear markets. As firms undergo economic stress, the non-performing asset problems associated with tunneling become more transparent. For example, in Lemmon and Lins (2003) the effects of tunneling are only reflected in firms' price declines during the Asian financial crisis.

We find further support for this view when we examined the allowance for bad debt balances for our sample firms. The average gross ORECTA balance for our firms did not decline over time, but the average net ORECTA (our measure) did. This is because Chinese firms, on average, increased their allowance for bad debt every year in the post-2000 period.[24] As this allowance is increased, reported earnings are simultaneously decreased, thus making the valuation consequences more transparent. This finding helps to explain the greater hedge returns in the latter period, despite lower ORECTA balances.

3.6. Ancillary tests

In this section, we examine cross-sectional factors that could affect the severity of the tunneling problem across firms. Our first test is motivated by international evidence that tunneling is most problematic when the blockholder's controlling right (C) is much larger than her ownership right (O).[25] The intuition is straightforward: as the C/O ratio increases, the controlling shareholder derives relatively greater benefit from tunneling activities. In China, the largest blockholder has effective control, even when holding a relatively low percentage of total shares. Therefore, we would expect the tunneling problem to be most severe in low-BLOCK firms (i.e., firms whose percentage held by the largest shareholder are lowest).

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[24] The WIND database separately reports gross and net other receivables after 2000. The average gross other receivables for our sample firms in 2001 was 12.5 million RMB. This variable increased every year, to a balance of 13.9 million RMB in 2004. However, this increase was more than offset by the increase in the average bad debt allowance (11% of gross other receivables in 2001 and increasing to 16% of gross other receivables in 2004). As a result, net ORECTA decreased each year throughout this period.

[25] See, for example, Lemmon and Lins (2003) and Claessens, Djankov, Fan, and Lang (2002).
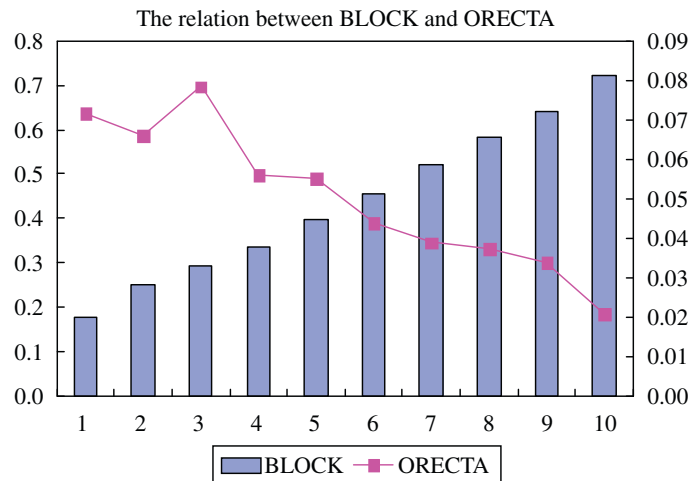
Fig. 3. The relation between BLOCK and ORECTA. This graph examines the relation between ownership structure and the extent of tunneling using ORECTA. Prior literature suggests that the incentives for tunneling will be most acute when a blockholder's cash-flow ownership (C) is much lower than her controlling ownership (O). To test this hypothesis, we sort firms annually into ten deciles based on BLOCK, the percentage of common shares held by the biggest shareholder (a proxy for C). We then compute the median ORECTA in each decile (the line graph), as well as the average BLOCK value (the bar graph). The x-axis is decile rankings based on BLOCK. Numerical values for BLOCK are reported on the left side of the graph; numerical values for ORECTA are reported on the right.

Table 6
The determinants of ORECTA.
In this table we examine the determinants of ORECTA. The dependent variable is ORECTA (other receivables deflated by total assets). The independent variables are: ROA, the return on total assets in the previous fiscal year; BLOCK, the percentage of shares held by the largest shareholder; SIZE, the log of total assets; STATE, a dummy variable which takes value one if the largest shareholder is any government-owned institution; Central and Local are dummy variables indicating whether the largest shareholder is a central-government or local-government agency; MARKETIZATION, a comprehensive index measuring the development of the regional market in which the firm is registered (see Fan and Wang, 2006), where higher values indicate greater regional market development; LAYER, the number of intermediate layers between the company and its controlling owner through the longest pyramidal chain, defined following (Fan, Wong, and Zhang, 2007). ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively. All regressions include industry and year fixed effects.

	Model 1	Model 2	Model 3	Model 4	Model 5
INTERCEPT	0.402***	0.386***	0.393***	0.392***	0.389***
ROA	−0.340***	−0.380***	−0.383***	−0.382***	−0.381***
BLOCK	−0.062***	−0.055***	−0.055***	−0.054***	−0.055***
SIZE	−0.015***	−0.014***	−0.014***	−0.014***	−0.014***
STATE		−0.015***	−0.016***		
Central				−0.020***	−0.018***
Local				−0.015***	−0.013***
MARKETIZATION			−0.001**	−0.001**	−0.002***
LAYER					0.001
No. of observations	7479	6094	5960	5960	5874
Adjusted R^2	17.66%	19.44%	19.73%	19.77%	19.99%

Fig. 3 illustrates the relationship between ORECTA and BLOCK (the percentage of shares outstanding held by the largest shareholder). To construct this graph, we sort firms each year into ten deciles based on the percentage of common shares held by the biggest shareholder (BLOCK). We then calculate the median of ORECTA in each decile. The figure depicts the distribution of ORECTA in each BLOCK decile. The x-axis is decile rankings based on BLOCK. BLOCK values are on the left y-axis, ORECTA values are on the right y-axis.

Fig. 3 shows that the use of ORECTA is most pervasive when the blockholder's controlling right (C) is much larger than her ownership right (O). Specifically, ORECTA balances are highest when the controlling shareholder holds less than 30% of the shares. In fact, in the top BLOCK decile (where the controlling shareholder owns over 70% of cash-flow rights), ORECTA balances are quite low (around 2%).

Table 6 provides a more comprehensive analysis of factors that could affect the severity of the tunneling problem across firms. The dependent variable in this analysis is ORECTA. The independent variables are: BLOCK; ROA (return-on-assets from the prior year); SIZE (log of total assets); STATE (a dummy variable that takes the value of one if the largest shareholder is any level of government or any government-owned institution); Central and Local (dummy variables indicating whether the largest shareholder is a central-government or local-government agency); MARKETIZATION (a comprehensive

index measuring the development of the regional market in which the firm is registered (see Fan and Wang, 2006), where higher values indicate greater regional market development); and LAYER (the number of intermediate layers between the company and its controlling owner through the longest pyramidal chain (see Fan, Wong, and Zhang, 2007). We also include industry and year fixed-effect dummies).

Model 1 reports the result when only ROA, BLOCK, and SIZE are included as explanatory variables. This model shows that ORECTA is higher for smaller firms and less profitable firms. Consistent with the univariate analysis, BLOCK has a strong negative relation with ORECTA after controlling for SIZE and ROA. Model 2 adds STATE and shows that this form of tunneling is worse when the controlling shareholder is not a state-owned enterprise. Non-state entities that control listed firms include regional collectives and private entrepreneurs. Our evidence suggests that, on average, companies controlled by these entities tend to have more severe tunneling problems. Model 3 adds MARKETIZATION and shows that the tunneling problem is marginally attenuated if the firm is located in a more developed region of the country. This is consistent with the notion that tunneling is a bigger problem in less developed areas of China, and is analogous to the cross-country findings in Nenova (2003).

In Model 4, we separate state-owned enterprises (STATE) into local and central agencies, and find that tunneling problems appear to be relatively more severe in local-government controlled enterprises. The difference between Central and Local is statistically significant. This finding is consistent with Cheung, Rau, and Stouraitis (2008), who analyze a sample of related-party transactions and find that local-government-controlled entities tend to have a greater problem with expropriations through transfer pricing. They argue that is because local government bureaucrats are less likely to be prosecuted for misappropriation of state funds. Finally, Model 5 shows that the number of layers of ownership in the pyramidal structure (LAYER) is not related to the level of ORECTA.

Overall, the results of these regressions confirm that BLOCK is strongly negatively correlated with ORECTA. At the same time, it shows that SIZE, ROA, STATE, and MARKETIZATION also contribute in explaining the degree of tunneling across firms. In particular, local-government-controlled firms have a more severe problem than central-government-controlled firms, and non-state controlled firms have a more severe problem than state-controlled firms.

Thus far, we have seen that ORECTA is higher for low ROA firms. At the same time, ORECTA is incrementally useful in predicting future ROA (after controlling for current ROA). An interesting question is whether tunneling is a consequence or a cause of poor performance. While our data do not allow us to fully address this issue, we attempt to provide some evidence on it in Table 7. This table presents annual industry-adjusted ROA in the years immediately adjacent to a large increase in ORECTA (defined either as an increase in decile ranking of five or more (Panel A), or as an increase in ORECTA of 0.15 or more, starting from a low base (Panel B)). In effect, Panel A identifies firms in the lower five deciles in year $t-1$ that moved to the higher five deciles in year t. Similarly, Panel B identifies firms in one of the lowest seven deciles in

year $t-1$ that moved to one of the three highest deciles in year t.[26]

The results in Panel A of Table 7 show that for the firms with a large increase in ORECTA ranking, industry-adjusted ROA in years $t-2$ and $t-1$ is not significantly different from zero, but ROA in years t, $t+1$, and $t+2$ is significantly worse than industry average. The results in Panel B provide some evidence that performance began to decay in year $t-1$ for firms with large ORECTA balance increases, but that the assumption of the loan as a strong predictor of worse future performance still holds. We find virtually identical results using other ROA cutoffs. In general, the evidence suggests that while poor operating performance (weakly) increases the likelihood of a large increase in ORECTA, a large increase in ORECTA is a strong predictor of future deterioration in operating performance.

The fact that a relatively transparent disclosure item is not fully priced seems curious. Investigating further, we find that institutional investors and mutual funds play a small role in Chinese markets. Table 8 presents total shareholdings of mutual funds and all institutional investors (including mutual funds, social security funds, pension funds) as a percentage of total shares outstanding or total tradable shares. We obtained annual mutual fund ownership data from 1999 to 2004, and end-of-year institutional ownership data of 2004 from WIND Information Company. This table shows that average ownership by mutual funds is only 1.33% of total shares outstanding (2.8% of tradable shares). As of the end of 2004, ownership by all institutional investors, including mutual funds, social security funds, and pension funds, is only 3.75% (8.26% of tradable shares). Interestingly, we find that institutional ownership is highest among low-ORECTA firms, suggesting that the institutions tend to avoid high-ORECTA firms. Evidently these investors do take ORECTA balances into account, but their collective effect on pricing is limited. Collectively, our findings suggest that the private rents to controlling shareholders might not be fully incorporated in normal expected returns.

Some prior studies (e.g., Allen, Qian, and Qian, 2005) allege that weakness in the audit profession is at least partially to blame for China's corporate governance woes. We attempt to shed some light on this issue by assessing the large sample relation between audit qualifications and ORECTA balances. In Panel A of Table 9, we examine the extent to which ORECTA balances are related to the likelihood of receiving an audit qualification. In this test, we use a logit model where the dependent variable, Q, equals one if the firm receives a qualified audit opinion, and zero otherwise. LQ (lagged Q) is the corresponding audit-opinion variable in the previous year. AR is accounts receivable deflated by total assets. ORECTA, ROA, LEV, SIZE, and NONOPERAT are as defined earlier.

The Model 1 results in Panel A show that ORECTA is highly significant, and positively correlated with the probability of receiving a qualified opinion. In terms of

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[26] For Panel A, we also tested firms whose ORECTA decile rank increased by at least four or six in year t. For Panel B, we also tested firms whose ORECTA is less than 0.10 in year $t-1$ and whose change in ORECTA is 0.12, 0.15, or 0.18 or greater in year t. None of the key results are affected by these perturbations.

Table 7
Annual industry-adjusted ROA surrounding large increases in ORECTA.

This table presents annual industry-adjusted ROA in the years immediately adjacent to a large increase in ORECTA (other receivables deflated by total assets). We define a large ORECTA increase in two ways. For Panel A, we sort firms each year into ten deciles based on ORECTA (Decile 1 are low-ORECTA firms and Decile 10 are high-ORECTA firms). We then focus on the subset of companies whose ORECTA decile rank increases by five or more in year t. For Panel B, we examine firms that had ORECTA less than 0.15 in year $t-1$, but reported an increase of at least 0.15 in year t. Table values represent the annual industry-adjusted ROA for these large ORECTA increase firms in years $t-2$ to $t+2$. Industries are defined according to the two-digit code assigned by China Securities Regulatory Commission (CSRC). For each year, we test the statistical significance of the deviation from industry mean ROA, and the statistical significance of the change from the previous year. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.

| Panel A: firms whose ORECTA decile rank increased by 5 or more in year t | | | | |
Year	Obs	Mean	t-Stat on deviation from industry mean	t-Stat on change from previous year
−2	91	−0.001	0.12	
−1	121	−0.001	0.23	0.02
0	123	−0.018	2.89***	2.19**
1	101	−0.013	2.30**	0.52
2	83	−0.023	3.01***	1.03
Panel B: firms whose ORECTA is less 0.15 in year $t-1$ and whose change in ORECTA is 0.15 or greater in year t				
Year	Obs	Mean	t-Stat on deviation from industry mean	t-Stat on change from previous year
−2	70	−0.012	1.38	
−1	87	−0.014	2.25**	0.15
0	88	−0.066	5.70***	3.98***
1	69	−0.039	4.58***	1.90*
2	53	−0.047	3.92***	0.57

Table 8
Institutional ownership by ORECTA deciles.

This table presents total shareholdings of mutual funds and all institutional investors (including mutual funds, social security funds, pension funds) as a percentage of total shares outstanding or total tradable shares. We report these values separately for each ORECTA (other receivables deflated by total assets) decile and in aggregate. Data for mutual fund holdings are available from WIND annually from 1999 to 2004, and data for all institutional investors are available only for the year-end of 2004.
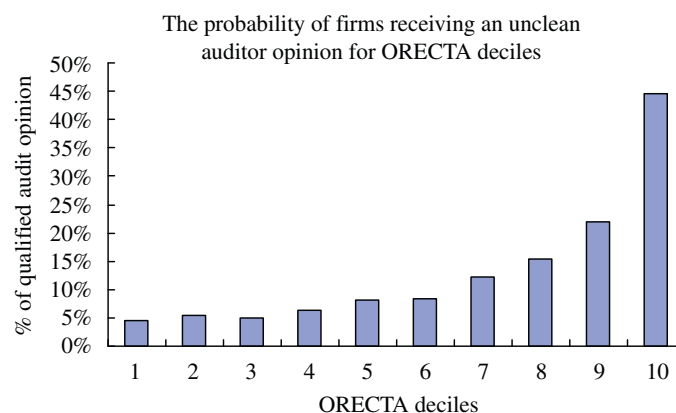
| Panel A: average mutual fund holdings, 1999–2004 | | | | | |
| Group by ORECTA | | As percentage of total shares outstanding | | As percentage of tradable shares | |
	Obs	Mean	Median	Mean	Median
1	603	3.368	0.307	6.008	0.546
2	607	2.523	0.243	5.009	0.544
3	608	1.639	0.085	3.364	0.160
4	607	1.813	0.059	3.839	0.130
5	606	1.120	0.021	2.799	0.071
6	607	1.109	0.019	2.650	0.068
7	609	0.693	0.000	1.665	0.000
8	606	0.477	0.000	1.140	0.000
9	609	0.400	0.000	0.993	0.000
10	604	0.207	0.000	0.504	0.000
All	6066	1.334	0.005	2.796	0.015
Panel B: ownership by all institutional investors, 2004					
Group by ORECTA		As percentage of total shares outstanding		As percentage of tradable shares	
	Obs	Mean	Median	Mean	Median
1	117	8.506	2.855	16.190	5.081
2	118	6.896	2.690	14.566	6.383
3	118	5.178	1.509	11.241	3.758
4	118	5.018	1.315	10.624	3.311
5	118	3.607	0.570	9.285	1.477
6	118	3.233	0.465	8.005	1.069
7	118	2.390	0.233	5.709	0.619
8	118	0.967	0.271	2.473	0.766
9	118	1.020	0.140	2.907	0.437
10	118	0.638	0.085	1.662	0.232
All	1179	3.745	0.499	8.259	1.257

Table 9
The monitoring role of auditors.
This table examines the monitoring role of auditors. Panel A tests whether firms with higher ORECTA (other receivables deflated by total assets) are more likely to receive unclean auditor opinions. We use a logit model where the dependent variable is Q, a dummy variable that equals one if the firm receives a qualified audit opinion, and zero otherwise. LQ (lagged Q) is the auditor opinion in the prior year. AR is accounts receivable deflated by total assets. ROA, LEV, SIZE, NONOPERAT are defined in Table 2. Panel B examines the effect of a qualified audit opinion on subsequent tunneling behavior. We regress ORECTA in year $t+1$ on current ORECTA, dummy variable Q, and other control variables. All regressions include firm and year fixed effects.

| Panel A: logit estimate of the probability of receiving a qualified opinion | | | | | | |
| | Model 1 | | | Model 2 | | |
	Coefficient	χ^2	p-Value	Coefficient	χ^2	p-Value
INTERCEPT	−2.337	4.413	0.036	−3.982	11.165	0.001
ORECTA	6.846	287.892	< 0.0001	6.489	222.586	< 0.0001
LQ				0.968	81.746	< 0.0001
ROA	−10.234	184.921	< 0.0001	−9.929	157.289	< 0.0001
LEV	2.190	59.884	< 0.0001	1.862	38.528	< 0.0001
SIZE	−0.045	0.685	0.408	0.022	0.140	0.709
NONOPERAT	7.895	3.683	0.055	3.696	0.742	0.389
AR	−0.056	0.014	0.907	0.661	1.689	0.194
Obs: 6378						
Psudo R^2	31.57%			38.43%		

| Panel B: the effect of a qualified opinion on subsequent tunneling behavior (dependent variable is ORECTA in year $t+1$) | | | |
	Coefficients	t-Statistics	p-Value
ORECTA	0.333	20.940	< 0.0001
Q	0.049	3.010	0.003
LEV	0.013	1.330	0.183
SIZE	0.015	5.240	< 0.0001
Obs: 6378			
ADJ-R^2: 70.02%			

Fig. 4. The relation between ORECTA and the probability of firms receiving an unclean auditor opinion. Each year, firms are sorted into ten deciles based on ORECTA (Other receivables deflated by total assets). We then calculate the percentage of firms within each group that received a qualified opinion in the accompanying audit report.

its ability to predict the likelihood of a qualified opinion, it is more important than any other variable, including ROA and LEV. Model 2 shows that, even after including LQ (lagged Q), ORECTA is still highly significant. Evidently auditors are well aware of ORECTA balances, and are willing to issue unclean opinions for high ORECTA firms.[27]

Fig. 4 offers a graphical depiction of this result. This graph shows that 45% of all firms in the top ORECTA decile receive unclean opinions. The probability of an unclean opinion declines almost monotonically across ORECTA deciles, such that only around 5% of the firms in the lower deciles receive unclean opinions. Once again, the evidence is consistent with auditors playing a monitoring role with respect to tunneling activities using corporate loans.

As a final test, we examine the effect of a qualified opinion on subsequent tunneling behavior. Panel B of Table 9 reports a regression of ORECTA in year $t+1$ on current year ORECTA, and dummy variable Q, as well as other control variables. If firms curtail their tunneling

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[27] To confirm these results, we read a large number of audit reports for top ORECTA decile firms. In many cases, we found the report explicitly citing the other receivable balance as a reason for the audit qualification.

activities after receiving a qualified opinion, we would expect the coefficient on Q to be negative. Instead, we find that the Q coefficient is positive and significant, indicating that firms are more likely to increase their ORECTA balance after a qualified opinion. This counter-intuitive result could be due, in part, to the fact that some firms charge an interest balance on the loans. The interest, which is also typically not repaid, simply increases the outstanding loan balance.[28] In any event, we find no evidence that firms receiving a qualified opinion in year t will reduce their use of OREC as a vehicle for tunneling in the next period.

3.7. The long road to regulatory reform

Thus far, our analysis highlights a chronic problem that affected many listed firms in the Chinese market during the 1996–2006 time period. In Appendix C, we detail the regulatory efforts to curb this abuse. We provide a brief annotated discussion of these rules and regulations here.

3.7.1. Opening rounds (pre-2004)

Efforts to reduce OREC balances began as early as 2001, when the CSRC issued a (largely ignored) request to listed companies to stop the practice of lending to controlling shareholders. Coincidentally, 2001 was the first year that the Chinese stock market showed clear signs of being in a serious decline (a bear market that would last until 2006). By August 2003, the CSRC had issued explicit instructions calling for an end to loans by listed companies to controlling shareholders (CSRC Rule 2003-56). In fact, the same ruling required listed companies to reduce their OREC balances to their controlling shareholder by 30% per year. This ruling was also largely ignored, perhaps because the CSRC had no means of enforcing punitive action against the controlling shareholders, most of whom were not publicly listed.

3.7.2. The middle game (2004–2005)

In January 2004, against the backdrop of a bleak 3-year-old bear market, the State Council issued Directive 2004-3, titled "On the reform and development of capital markets." A section of this directive specifically addresses the problem of tunneling, and states "we must prevent controlling shareholders from embezzling listed company assets, and punish those who did." This directive provided the CSRC a much needed mandate to take action against controlling shareholders.

On July 27, 2004, recognizing the difficulties most controlling shareholders will have in making repayments, CSRC proposes "Debt for Equity Swaps," whereby the controlling shareholder may (subject to approval) repay the amount owed by exchanging the loan for their equity position in the listed company. On June 6, 2005, CSRC Rule 2005-37 spelled out explicit non-compliance penalties.

Perhaps most importantly, the rule states that in 2006, CSRC will disclose the names of all controlling shareholders who still owe balances of 100 million or more RMB as of December 31, 2005, as well as names of the chairperson of the controlling entity.

On November 1, 2005, the State Council issued a Directive on Behalf of CSRC. Broadly titled "On Improving the Quality of Listed Companies," this directive acknowledged that the listed companies are in bad shape, and prescribed a sweeping list of changes (targeting controlling shareholders). In particular, this directive stated that the top management of controlling shareholders or colluding firms will be personally punished, if such payments remain outstanding by the end of 2006.

3.7.3. The end game (2006)

On November 7, 2006, in an unprecedented move, eight government ministries issued a joint announcement, making it clear that the top management of controlling entities will be fired from their posts and face disciplinary punishment if the December 31, 2006 deadline is not met.[29] By December 31, 2006, 399 listed companies managed to resolve OREC balances totaling 39 billion RMB. Another 17 listed companies, with OREC balances totally 9.2 billion RMB, failed to resolve their loans. In ten out of these 17 companies, top management of the controlling entity or colluding entities, were arrested—thus, bringing to a close an extraordinary chapter in securities market regulation history.

4. Summary

This study shows the widespread use of corporate loans by controlling shareholders to extract funds from Chinese listed companies. Typically reported as "Other receivables" (OREC), these loans represent a substantial portion of the reported assets and market capitalization of Chinese firms. We show that these loans are of a long-term nature, that they are typically made to parties related to the controlling shareholder, and that they were used extensively to transfer funds out of hundreds of Chinese firms in the 1996–2006 time period. We also find that firms with large OREC-to-total-asset (ORECTA) balances experience worse future operating performance and are much more likely to become candidates for delisting.

Market participants seem to only partially anticipate these negative outcomes. While the market applies a higher discount rate to the earnings of high-ORECTA firms, high-ORECTA firms still earn negative risk-adjusted returns over the next 12 months. Institutional investors and mutual funds tend to avoid high-ORECTA firms and hold a disproportionally large percentage of low-ORECTA firms. However, institutional ownership is a relatively small part of the Chinese market landscape, a fact that

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[28] Jian and Wong (2010) report that among their sample of Chinese firms with related-party loans, 84% did not charge any significant interest. For the remaining firms, interest was generally accrued rather than paid in cash.

[29] These ministries represent a broad spectrum of governmental agencies that, collectively, had the power to ensure the top management of controlling shareholders would be arrested if necessary.

likely contributes to the persistence of the mispricing. Collectively, our evidence suggests that the private rents extracted by controlling shareholders might not be fully incorporated in normal expected returns.

We show this form of tunneling is most severe when the block shareholder's controlling right (C) is significantly larger than her ownership right (O). Specifically, we find that ORECTA balances are highest in firms where the controlling shareholder's cash-flow ownership right (O) is less than 40%. As the controlling shareholder's ownership right increases, the incentive to tunnel diminishes and so does ORECTA. We also find that the severity of the tunneling problem is greater for smaller, worse performing, non-state-owned firms, particularly if they are located in regions of the country that are less economically developed.

We also provide some evidence on why various legal and extra-legal governance mechanisms were inadequate in containing this practice. We show that high-ORECTA firms are much more likely to receive a qualified audit opinion. In fact, 45% of the firms in the highest ORECTA decile receive a qualified opinion (compared to less than 5% among low-ORECTA firms). However, firms that receive a qualified opinion in year t show no inclination to reduce their ORECTA balance in year $t+1$. These findings show that auditors do play a monitoring role, but absent effective enforcement (either by regulators or informed investors), unclean audit opinions alone are insufficient to deter tunneling behavior.

Finally, we show the long and arduous efforts by the CSRC and other regulators to put an end to this particular form of tunneling. We find that between 2001 and the end of 2006, numerous rulings, directives, and other edicts were issued. These efforts culminated in an eight-ministry joint statement in November 2006 which threatened personal action against the top management of controlling shareholders unless all intercorporate loans from listed companies were repatriated by December 31, 2006. This unprecedented show of political resolve finally forced the repatriation of most of the remaining OREC balances, which even as late as 2006, amounted to close to 50 billion RMB, involving over 400 firms.

Overall, our findings provide a portrait of the nature and severity of the tunneling problem in China, and the ongoing challenges associated with regulatory reform in this major emerging economy. Our evidence shows that, in certain settings, disclosure alone is not enough. Specifically, when minority shareholders have no private litigation channels, and when market regulators have limited jurisdiction over the controlling entities, even an extremely transparent form of tunneling can persist for many years. These findings argue for increased legal, rather than extra-legal, regulatory measures in curbing Chinese insider abuse.

Although the specific form of abuse associated with intercorporate loans has largely ceased, the economic incentives that gave rise to this behavior are still intact. Under China's recent regulatory reform, controlling shareholders' holdings have now largely been converted into tradable status. However, the Chinese government has signaled its intent to retain control of all state-owned listed companies. At the time of this writing, Chinese laws restrict both the timing and amount of the sale of controlling blocks, and analysts project the lower bound on the government's intended shareholdings to be between 25% and 60% for Chinese firms in most industries.[30]

Given these developments, in spite of the considerable progress made to date, we remain cautious about the resolution of the tunneling problem in China. At least in the foreseeable future, China's listed sector will continue to be dominated by controlling shareholders whose benefit from firm-price appreciation will be limited. In fact, most controlling shareholders will face an even wider gap between their controlling rights (C) and cash ownership rights (O)—thus potentially increasing tunneling incentives.

Until these fundamental agency issues are resolved, we believe the threat of tunneling will remain a concern for Chinese investors and regulators. At the same time, academics interested in understanding managerial and investor behavior in China would do well to keep the tunneling perspective in mind.

Appendix A. FENG HUA: A case study in large shareholder tunneling

The HANQI Group is the largest shareholder of FENG HUA Co. (stock code: 600615), holding a bit less than 30% of its shares. From early 2002, the HANQI Group (including its subsidiaries HANQI Real Estate, and Beijing HANQI) "borrowed" large amounts of money from FENG HUA. Table A1 contains excerpts from FENG HUA's financial statements. To gain a sense of the magnitude of these borrowing, on December 31, 2002, HANQI's share of equity in FENG HUA is RMB 116.21 million. On that date, it and its subsidiaries borrowed from FENG HUA a total of 198.6 million. In terms of financial reporting, the money that large shareholders owe the listed company is included in a data item called "Other receivables" (OREC), which in this instance also included several other large items not directly traceable to HANQI. On December 31, 2004, 52.2 million RMB were written off because Beijing HANQI no longer existed (bankrupt). FENG HUA was subsequently "specially treated (ST)." All values in

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[30] In a May 2006 report, Hualin Securities analyst Fupeng Qi, after analyzing a vast number of regulations, rulings, policy announcements, and speeches by government officials, classified listed companies into five groups, and estimated lower bounds on the government's intended shareholding in listed companies for each: Group 1: Listed companies in industries that are critical to national or economic security, or provide important public goods or services. For this group, the government minimum holding is 60%. Group 2: Listed companies in important energy or natural resources industries, or major high-tech industries. For this group, the minimum government shareholding is 51%. Group 3: Listed firms in agriculture and manufacturing, no less than 35%. Group 4: Listed firms in highly competitive industries, no less than 25%. Group 5: Listed firms in retailing and other service industries, no less than 10%.

Of course, these estimates only apply to controlling shareholders that are state-owned. However, we have no reason to believe non-state-owned blockholders will be any more eager to relinquish their controlling positions.

Table A1

Reporting date Item	Gross OREC (1)	Total assets (2)	Gross OREC/Total assets (1)/(2)	Gross OREC from HANQI Group (4)	Gross OREC from Beijing HANQI (5)	Gross OREC from HANQI Real Estate (6)	Total gross OREC from HANQI (7)=(4)+(5)+(6)	HANQI's % in gross OREC (7)/(3)
2004-12-31	304.4	693.2	44%	122.2	0	31.7	153.9	51%
2004-06-30	308.0	781.2	39%	122.2	52.2	30.0	204.4	66%
2003-12-31	328.4	804.5	41%	122.2	52.2	30.0	204.4	62%
2003-06-30	362.8	940.4	39%	116.5	52.2	30.0	198.6	55%
2002-12-31	342.9	947.6	36%	116.4	52.2	30.0	198.6	58%
2002-06-30	306.2	1078.5	28%	122.0	52.2	30.0	204.2	67%
2001-12-31	189.6	1084.2	17%				82.2	43%
2001-06-30	66.0	1193.9	6%					

Table A1 are in RMB millions, except percentages. All data are available on SINA finance Web site.

Appendix B. The proportion of large shareholder receivables (LSH gross OREC) within each ORECTA decile

This table reports the gross amount of large shareholder receivables as a proportion of total other receivables (OREC) for firms sorted by ORECTA decile. To construct this table, we first sort our full sample of firm-years annually into deciles by ORECTA. We then report aggregate statistics for the Ye (2006) firm-year observations within each ORECTA decile. Ye (2006) hand-collected the amount of other receivables due from the controlling shareholder and its affiliates (LSH gross OREC) for all manufacturing firms listed on the Shanghai Stock Exchange between 1999 and 2002. Table B1 reports the number of Ye observations in each decile, the average ORECTA value, the average LSH gross OREC value, and LSH gross OREC expressed as a percentage of total gross OREC.

Appendix C. The long road to regulatory reform

Rules and regulations specifically related to tunneling through intercorporate loans include:

Early 2001—CSRC Requirement

In early 2001, the China Securities Regulatory Commission (CSRC) issued a general requirement that all listed companies collect their "loans" (OREC) to controlling shareholders, but this requirement was widely ignored.

August 28, 2003—CSRC Rule 2003-56

This rule prohibits listed firms from issuing new loans to (and loan guarantees on behalf of) the controlling shareholder and sets out specific targets and guidelines for reducing existing OREC balances. Specifically, it requires listed companies to reduce the money controlling shareholders obtained from them by 30% every year (starting in 2003).

January 2004—State Council Directive 2004-3

The State Council issued a board directive, a section of which specifically addresses the problem of tunneling, and states "we must prevent controlling shareholders from embezzling listed company assets, and punish those who did."

July 27, 2004—CSRC Proposes "Debt for Equity Swaps"

Recognizing that many controlling shareholders simply did not have enough cash to repay the OREC they owed, the CSRC proposed repayments by a debt for equity swap.

June 6, 2005—CSRC Rule 2005-37

This rule outlines specific steps for regulators to follow in the case of non-compliance. Importantly, the rule states that in 2006, CSRC will disclose the names of all controlling shareholders still owing 100 million or more RMB as of December 31, 2005.

November 1, 2005—State Council Directive on Behalf of CSRC

Written by the CSRC, but issued by the State Council, this rule prescribed sweeping changes to corporate governance and disclosure rules (targeting controlling

Table B1

Full sample		Ye (2006) sample				
	ORECTA	Number of Ye (2006) firm-years in full-sample deciles	ORECTA	Total gross OREC	LSH gross OREC	(LSH gross/ total gross)
Low	0.56%	139	0.40%	8.38	1.04	6.60%
2	1.62%	156	1.20%	24.40	6.05	14.30%
3	2.74%	115	2.10%	47.15	13.63	16.70%
4	4.01%	112	3.10%	74.66	11.78	15.10%
5	5.37%	103	4.20%	111.16	27.44	19.00%
6	6.99%	95	5.90%	107.58	21.45	22.00%
7	9.13%	104	7.80%	138.67	43.26	24.30%
8	12.10%	105	10.90%	186.06	50.54	30.70%
9	17.22%	109	16.40%	263.91	90.54	30.90%
High	31.97%	96	32.50%	481.44	252.12	42.20%

shareholders). In particular, it set December 31, 2006 as a date by which all OREC from controlling entities and affiliates must be repaid.

November 7, 2006—Eight-Ministry Joint Announcement

Eight government ministries issued a joint announcement, making it clear that the top management of controlling entities will face disciplinary punishment if the deadline for repayment is not met. Collectively, these agencies had the power to ensure top management of controlling shareholders will be arrested if necessary.

By the December 31, 2006 deadline, 399 listed companies managed to resolve OREC balances totaling 39 billion RMB. Another 17 companies, with OREC balances totally 9.2 billion RMB, failed to resolve their loans. In ten out of these 17 companies, top management of the controlling/colluding entities was arrested.

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