

Related Party Transactions and Institutional Investors in Chinese Listed Companies

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Abstract

We study institutional investors' influence on the use of related party transactions (RPTs) in China. We test the significance of potential factors in the cross-sectional regression analysis of the amount of RPTs reported by Chinese listed companies. We also analyze intraday trading activities and stock prices in days around public announcements of RPTs. Our findings suggest that institutional investors do not have a significant influence on Chinese firms' usage of RPTs but they react to RPT announcements through buying or selling shares.

JEL classification: G15, G3

Keywords: Chinese Listed Companies; Institutional Trading; Related Party Transactions; Share-Structure Reform; Wall Street Rule

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1. Introduction

Related party transactions (RPTs) play a controversial role in corporate financial management. On one hand, RPTs between members of a business group can effectively deal with difficulties or constraints imposed by imperfect external markets. In particular, individual firms in emerging markets often find it difficult to acquire necessary resources due to imperfect markets and lack of intermediary institutions, and thus form large business groups to benefit from transactions with members within the same group. Lincoln et al. (1996) find that RPTs reduce the performance variability of member firms in Japanese keiretsu. Shin and Park (1999) find that investment decisions of member firms in Korean chaebols are independent of their own operating cash flows, but significantly related to cash flows of the other firms in the same chaebol group. Khanna and Palepu (2000) find that affiliates of business groups in India outperform unaffiliated firms. La Porta et al. (2003) point out that borrowing and lending between related parties can benefit both the borrower and the lender because of less information asymmetry and better alignment of incentives.

On the other hand, RPTs may be used by controlling shareholders to expropriate wealth at the expenses of minority shareholders (La Porta et al., 1999). According to La Porta et al. (1999), a controlling shareholder has strong incentive to use firm resources to maximize his own benefits at the expenses of minority shareholders, especially when the rights of minority shareholders are not well protected. Johnson et al. (2000) use the term “tunneling” to describe controlling shareholders’ expropriation of corporate assets. In fact, tunneling is a worldwide phenomenon and has been documented in U.S. (Barclay and Holderness, 1989), Europe (Johnson et al., 2000), Italy (Zingales, 1994), Korea (Bae et al., 2002), India (Bertrand et al., 2002), Bulgaria (Atanasov, 2005), and East Asia (Claessens et al., 2002).

Several recent studies document evidence that Chinese listed companies use RPTs to tunnel wealth. Jian and Wong (2004) study a sample of 131 Chinese listed companies in the basic materials industry and find that companies controlled by a corporate group tend to divert profits to members in the same group via RPTs. Deng, Gan, and He (2008) point out that expropriation by controlling shareholders in Chinese listed companies is one reason why China's share issue privatization fails to improve firm performance. Jian and Wong (2008) analyze a sample of Chinese listed companies from 1998 through 2002 and document that listed companies prop up earnings by using abnormal related sales to their controlling owners and there is significant cash transfer via related lending from listed firms back to controlling owners after the propping. Cheung et al. (2008) find that Chinese listed companies with high state or local government ownership use RPTs to transfer wealth to the controlling parent company.

In this paper, we investigate how institutional investors may influence related party transactions in Chinese listed companies. Since the seminal paper of Shleifer and Vishny (1986), a large body of literature in corporate finance document evidence that effective monitoring by large shareholders reduces the agency costs.¹ Institutional investment has grown rapidly in China. The first closed-end fund was introduced in March 1998 and the first open-end fund was in October 2001. By the end of 2005, there were already 218 funds offered by 52 domestic fund management firms. The total asset under their management is about RMB 469.1 billion, which is nearly half of the total market value of tradable shares of all China's listed companies (about RMB 987 billion). As institutional investors hold an increasingly larger proportion of shares, they have both incentive and resources to monitor and protect the value of their investments.

¹ For example, Morck, Shleifer, and Vishny (1988), Admati, Pfleiderer, and Zechner (1994), Maug (1998), Holderness (2003), and references therein.

Our empirical analysis focuses on three related issues. First, we attempt to identify the factors that have a significant influence on the amount of RPTs in a firm. We use data on RPTs that 1,185 Chinese listed companies disclosed in their 2004 annual report. We find the amount of RPTs in a firm is significantly related to several firm characteristics, such as financial leverage, firm size, the type of auditors, and whether it belongs to a business group. In particular, the controlling shareholder's ownership is the most robust determining factor. This is consistent with the conjecture in prior studies that concentrated ownership in Chinese listed companies facilitates the use of RPTs for wealth expropriation. However, institutional ownership does not appear to have a significant influence on the amount of RPTs. This is likely due to the low level of institutional ownership -- the mean (median) institutional ownership in the 1,185 listed companies is only 4.34% (0.19%) (see Table 1 in this paper).

Second, we study stock price response to public announcements of RPTs. The China Securities Regulatory Commission (CSRC) initiated the Share-Structure Reform on 29 April 2005 that requires all Chinese listed companies to convert non-tradable shares to be publicly tradable. We manually collect public announcements made by the 228 firms that have completed their reform in 2005. There are a total of 511 RPT announcements in the three years between 2004 and 2006; 291 of them occurred before these firms completed the share restructuring process and 220 after the reform. We find that these RPT announcements, on average, have a significantly negative impact on stock price. The average daily abnormal return in a five-day event window around announcement day is -0.08%, significant at the 10% level. Of these announcements, 231 are value enhancing as they produce positive abnormal returns, while the other 280 are value-destroying as they produce negative abnormal returns.

Moreover, we find the announcement effect of the post-reform announcements differs from that of the pre-reform ones. The average daily abnormal return of the pre-reform announcements is -0.12%, significant at the 5% level; whereas, the average daily abnormal return of the post-reform announcements is merely -0.04%, which is not significant at any conventional level.

Third and last, we examine intraday trades in days around RPT announcements. We classify trades into six categories by their size (large, medium, or small) and direction (buy versus sell). We follow the common practice in the literature to use large trades to proxy for institutional trading and small trades for individual trading. For value-enhancing announcements, we find that both the proportion and the cumulative price impact of *institutional buy* trades increased significantly in days around the announcement relative to the pre-announcement period. On the other hand, for value-destroying announcements, both the proportion and the cumulative price impact of *institutional sell* trades increased significantly. The evidence suggests that institutional investors express their views about the announced RPTs by buying and selling shares.

Overall, our results suggest that institutional investors in China do not influence corporate decisions on the use of RPTs, but they monitor corporate activities and express their views by buying and selling shares. The significant price response to RPT announcements caused by institutional trades sends a clear signal to corporate management and controlling shareholders that bad corporate transactions would result in a loss of firm value. This increases the cost of tunneling to the controlling shareholder.

The remainder of this paper is organized as follows. Section 2 discusses the institutional background and existing literature related to this study. Section 3 describes our data sources. Section 4 presents empirical results. Section 5 concludes the paper.

2. Institutional background and related literature

2.1. Concentrated ownership and related party transactions in Chinese listed companies

Most of Chinese listed companies feature concentrated ownership -- the mean (median) ownership of the controlling shareholder in 1,185 listed companies is 42.81% (41.66%) at the end of 2003 (see Table 1 in this paper). With majority ownership, the controlling shareholders in Chinese listed companies dominate the board of directors and controls corporate management.

This phenomenon is the result of the partial privatization process that these companies have gone through. Chinese government started to reorganize state-owned enterprises (SOE) as modern share-holding corporations in late 1970s and allowed them to float public shares in domestic stock exchanges since 1990.² Under the influence of the communist public ownership principle, the majority (about two thirds) of issued shares in such listed companies are kept under direct or indirect state control and prohibited from public trading. These shares are commonly known as state shares or legal-person shares.

According to Deng, Gan and He (2008), SOEs went through basically two types of pre-listing restructuring. In a complete pre-listing restructuring, the state-owned controlling shares were typically deposited in the State Assets Management Bureau or other SOEs that do not have a close business relationship with the publicly listed company and tend to be passive

² Refer to Sun and Tong (2003) and references therein for detailed accounts of China's share issue privatization.

shareholders. But in an incomplete restructuring, government organized many SOEs into a parent/subsidiary structure, where the subsidiary held the most profitable assets for public listing while the parent company kept nonperforming assets such as excess workers, pensioned retirees, obsolete equipments and plants, and sometimes debt burdens. The state-owned controlling shares are in the hands of the parent company, which lacks of economic means to generate revenue and thus has strong incentives to expropriate resources from the listed subsidiary. The parent company controls the board of the listed subsidiary and can easily tunnel wealth through business transactions such as purchase/sales of goods and services, asset purchase/sales, trade credits, loan guarantees, etc.

Several recent studies document evidence that RPTs are used in Chinese listed companies to tunnel wealth. Jian and Wong (2004) study a sample of 131 Chinese listed companies in the basic materials industry and find that companies controlled by a corporate group tend to divert profits to members in the same group via RPTs. Jian and Wong (2008) analyze a sample of Chinese listed companies from 1998 through 2002 and document that listed companies prop up earnings by using abnormal related sales to their controlling owners and there is significant cash transfer via related lending from listed firms back to controlling owners after the propping. Cheung et al. (2008) find that Chinese listed companies with high state or local government ownership use RPTs to transfer wealth to the controlling parent company. Deng, Gan, and He (2008) point out that expropriation by controlling shareholders in Chinese listed companies is one reason why China's share issue privatization failed to improve firm performance.

Most of these studies reveal the expropriation of minority shareholders by documenting evidence for a significant relationship between firm value and proxies for the degree of expropriation. Cheung, Rau, and Stouraitis (2006) take a different approach. Their study

examines the impact of RPT announcements on stock price and shows that firms listed in the Hong Kong stock exchange experienced significant negative abnormal returns in response to RPT announcements. This provides direct evidence that RPTs are detrimental to firm value.

2.2. The Share Structure Reform in China

The split share structure with one third of issued shares being tradable and the other two thirds being non-tradable has had undesirable consequences in Chinese stock markets. Because of the inherent minority status, tradable-share owners have limited influence on corporate decision-making process. Non-tradable-share owners have the controlling power to determine corporate policies, but their wealth is unrelated to the market price of tradable shares. As a result, market price and investor behavior neither reflect nor affect fundamental values of listed firms (e.g., Allen et al., 2005). Moreover, since the state owns two-thirds of a listed firm, no other owner can acquire the controlling interests through market transactions. There were few market-driven takeovers and mergers. Mr. Shang Fulin, Chairman of the China Securities Regulatory Commission (CSRC), once made the point in his speech that the split share structure hinders future development of China's capital market.

On 29 April 2005, the China Securities Regulatory Commission (CSRC) announced a share-structure reform plan that aims to convert all non-tradable shares to be publicly tradable. An important feature of the reform is to ask non-tradable-share owners make a payment to tradable-share owners in order to gain the latter's approval of the conversion of non-tradable shares. These two parties must go through a formal process of negotiations and votings to determine a mutually acceptable payment package. In most firms that implemented the reform, the payment is met by non-tradable-share owners giving a portion of their holdings to tradable-share owners.

In consequence, after the reform, controlling shareholders who hold non-tradable-shares have a smaller proportion of issued shares and thus weaker voting power. On the other hand, institutional investors can acquire larger stakes of a firm from public market, and thus have more voting power and stronger incentives to monitor.

3. Data sources

We obtain firm-specific information about Chinese listed companies from several commonly-used databases. The China Stock Market and Accounting Research (CSMAR) database provides ownership structure information including number of issued shares, number of tradable shares, holdings of the top 10 shareholders, and holdings of the top 10 tradable-share owners. We obtain financial statement data and daily returns from the CSMAR database. The WIND database provides holdings of institutional investors.³ We calculate institutional ownership as the percentage of tradable shares held by these institutions.

Chinese listed companies are required by regulations to report current year RPTs in their annual reports, including information about the identity of related parties, the amount and type of each transaction.⁴ We use the database about RPTs in Chinese listed companies provided by the Center of China Economic Research (CCER) at Peking University. CCER collects information about RPTs from annual reports.

According to the regulations of both the Shanghai Stock Exchange and the Shenzhen Stock Exchange, listed firms must publicly announce, in a timely manner, any RPT with a total value of more than RMB 3 million or 0.5% of the firm's total equity, whichever is higher. None

³ The WIND database is the leading financial information database for institutional investors in China. It is used by more than 80% of Chinese domestic institutional investors and 60% of Qualified Foreign Institutional Investors (QFII). The website of this database is <http://www.wind.com.cn>.

⁴ The first Chinese accounting standards for related parties and related party transaction disclosure took effect on January 1, 1997. The standards were subsequently revised several times. The latest accounting standards took effect on January 1, 2007. The requirements for disclosure of RPTs remain the same in the new standards.

of these databases provide the date of RPT announcements and thus we manually collect them from public sources. For firms listed on the Shanghai Stock Exchange, we collect RPT announcements from the Exchange's official website.⁵ For firms listed on the Shenzhen Stock Exchange, we collect RPT announcements from SINA Corporation's financial information website.⁶

We also obtain intraday tick-by-tick transactions data from CCER, which is authorized by both Shanghai and Shenzhen Stock Exchanges to distribute transaction-level information. The CCER database provides information about intraday trades, including stock code, stock name, number of shares traded, dollar volume, transaction time, bid and ask prices. Both Chinese stock exchanges adopt a computerized order matching system without market maker or specialist. Unlike studies of U.S. intraday trades that must use either price or tick test to tell whether a trade is buyer or seller initiated, the CCER database provides an indicator of who initiated a trade.

4. Empirical analysis

4.1. Factors that influence the annual amount of RPTs

Our first analysis focuses on related party transactions that Chinese listed companies disclosed in their annual report for fiscal year 2004. The total amount of RPTs reported by all listed companies is about RMB 658 billion. The majority of these RPTs fall into six categories: purchase of goods (31.6% of the total amount), sale of goods (24.7%), purchase of services (3.5%), sale of services (1.7%), loan guarantee offered to related parties (5.4%), and loan

⁵ The website is <http://www.sse.com.cn>.

⁶ The website is <http://finance.sina.com.cn>.

guarantee received from related parties (19.4%). Because companies use operational RPTs and loan guarantees in different ways, we treat them separately in the following analysis. We calculate the amount of operational RPTs as the total amount of RPTs in the first four categories (i.e., purchase and sale of goods and purchase and sale of services). We calculate the amount of net loan guarantee as the amount of loan guarantee received minus the amount of loan guarantee offered.

We run separate regressions to investigate which factors have significant influence on the amount of operational RPTs and/or on the amount of net loan guarantee. We scale the amount of operational RPTs by total sales and the amount of net loan guarantee by total assets to make these two dependent variables comparable across firms.

Independent variables in our regressions fall into three categories. The first category represents a firm's ownership structure and includes three variables: institutional ownership, controlling stake, and the non-tradable portion of issued shares. We measure institutional ownership by the percentage of tradable shares held by institutional investors at the end of 2003. We calculate the controlling stake as the proportion of shares held by the controlling shareholder to all issued shares at the end of 2003. The controlling shareholder holds the largest proportion of issued shares including both tradable and non-tradable shares. We measure the non-tradable portion by the proportion of non-tradable shares to all issued shares at the end of 2003. Since only tradable shares can be bought and sold by institutional investors, a large non-tradable proportion implies that institutional investors would have limited influence on major corporate decisions.

The second category of independent variables includes firm size, financial leverage and return on equity (ROE). We measure firm size by the total assets in natural logarithm in fiscal

year 2004. The financial leverage is the ratio of total debt to total assets in fiscal year 2004. ROE is the ratio of net income to total equity for fiscal year 2004.

Variables in the third category characterize a firm's corporate governance and disclosure quality. They include the number of directors, the number of independent directors, and the number of supervisors in the supervisory board. We use a dummy variable to represent whether the firm issued B or H shares, because Chinese listed firms with B or H shares are found to have higher disclosure quality (e.g., Bai et al., 2004) and high disclosure quality may help to deter value-destroying RPTs (e.g., La Porta et al., 1998). We also include a dummy variable to represent whether the firm's annual report for fiscal year 2003 is audited by a big-four accounting firm, because having a big-four firm as the auditor is an indicator of high disclosure quality. At last, we include a dummy variable to represent whether the controlling shareholder is a business group, because Jian and Wong (2004) shows that RPTs are more likely to occur in business groups.

Table 1 reports summary statistics of these variables. Panel A shows mean, median, standard deviation and quartiles of these variables. On average, operational RPTs account for 11.0% of total sales, while net loan guarantees account for 3.7% of total assets. There are substantial variations in operational RPTs and net loan guarantees across firms. Operational RPTs as a percentage of total sales range between 0% and 107% with a standard deviation of 19.2%. The first quartile (i.e. Q1) of the amount of operational RPTs is zero, meaning that more than 25% of firms do not have operational RPTs at all. It is likely that these firms find it optimal not to use any RPT. To account for the fact that more than 25% of firms do not use operational RPTs, we use a Tobit model in our cross-sectional analysis in addition to the Ordinary Least Squares (OLS) method.

Net loan guarantees as a percentage of total assets range between -14.2% and 38.7% with a standard deviation of 9.3%. Both the first quartile (i.e. Q1) and the median of net loan guarantee are zero, meaning that more than 25% of firms do not have loan guarantees at all. Because net loan guarantee can be both negative and positive, it is not feasible to apply the Tobit model. In addition to the Ordinary Least Squares (OLS) regression on the amount of net loan guarantee, we also use a Logit model with the dependent variable being a dummy that equals one if a firm has non-zero loan guarantee.

[Table 1 is about here]

Panel A also shows that, on average, institutional investors hold only 4.34% of tradable shares at the end of 2003. The median institutional ownership in a firm is only 0.19%, while the third quartile (i.e. Q3) is just 3.7%. This means, institutional ownership concentrates in a relatively small number of firms. Non-tradable shares account for a large portion of issued shares, ranging from 40.1% to 85.28% with the mean 63.25% and the median 63.64%. Controlling shareholders hold large stakes of a firm; on average, they own 42.8% of issued shares.

The number of directors of a firm has a median of 9, while the largest number is 19 and the smallest is 5. The number of independent directors is between 2 and 12, with the median of 5. The number of supervisors is between 0 and 7. About 9% of these firms have B or H shares, 8% of them use a big-four accounting firm as the auditor, and 45% of them belong to a business group.

Panel B of Table 1 shows correlation coefficients between these variables. We find institutional ownership is positively correlated with firm size. This is consistent with what Sias and Starks (1997) and Gompers and Metrick (2001) observe that institutional investors tend to

invest in large companies. In addition, institutional ownership is also significantly correlated with the dummy for the big-four accounting firm, the proportion of non-tradable shares, and the proportion of the controlling shareholder's holdings.

We report the estimation results for six cross-sectional regression models in Table 2. The dependent variable in Models 1, 2, and 3 is the amount of operational RPTs scaled by total sales. Model 1 includes only a subset of all the variables we have, namely, institutional ownership, firm size, leverage, ROE, the proportion of non-tradable shares, and the proportion of the controlling shareholder's holdings. Model 2 includes the other variables that proxy for a firm's corporate governance and disclosure quality. Models 1 and 2 are estimated using the OLS method. Model 3 is a Tobit model with the same variables as in Model 2. We use the Tobit model to account for the fact that more than 25% of firms do not use operational RPTs.

[Table 2 is about here]

The results for Models 1 and 2 are similar. We find that firm size and financial leverage both have significant impact on the amount of operational RPTs. Institutional ownership has a negative, albeit insignificant, coefficient. The evidence indicates that institutional investors have limited influence on firms' decision to engage in RPTs. On the other hand, the proportion of controlling shareholders' holdings has a significantly positive coefficient. The evidence supports the claim in previous studies that concentrated ownership facilitates the use of RPTs for wealth expropriation. The Tobit model (Model 3) shows almost the same relationship as Model 2.

The dependent variable in Models 4 and 5 in Table 2 is the amount of net loan guarantee scaled by total assets. Model 4 includes the same variables as Model 1, and Model 5 includes the same variables as Model 2. The negative coefficient of firm size in the regression means that larger firms tend to receive less loan guarantee. The positive coefficient of financial leverage

indicates that high leverage firms receive more loan guarantee. Consistent with what we observe in Models 1 and 2, the level of controlling ownership has a significant positive coefficient but the coefficient of institutional ownership is insignificant. This means that institutional investors have no influence on related loan guarantees.

The results from the Logit model (Model 6) tell us what factors have a significant influence on firms' decision to engage in related loan guarantees. Both financial leverage and the controlling stake have significantly positive coefficients in Model 6. This is reasonable as firms with high leverage are more likely to need loan guarantee while concentrate ownership facilitates the approval of loan guarantee with related parties. Interestingly, both the dummy variable of having a big four auditor and the dummy variable of belonging to a business group have significantly negative coefficients in Model 5 but not significant in Model 6. This suggests that these two factors do not influence firms' decision but have a negative impact on the amount of loan guarantee a firm uses.

4.2. Abnormal returns in response to RPT announcements

A related party transaction may enhance firm value because it effectively overcomes difficulties imposed by external constraints. Alternatively, it may destroy firm value because controlling shareholders use it to siphon assets from the listed firm. A rational market would push up stock price upon announcement of a value-enhancing RPT or beat down stock price upon announcement of a value-destroying one. In this subsection, we analyze stock price response to public announcements of RPTs. We focus on a group of 228 firms that have completed their share restructuring reform in 2005. We collect RPT announcements made by these firms between 1 January 2004 and 31 December 2006. In total, there are 511

announcements, 291 of which occurred before these firms completed the reform and 220 after the reform.

We find that the share structure reform had a significant impact on these firms' ownership structure. Table 3 compares these firms' ownership structure at the end of 2004 (i.e. the year before the reform) with that at the end of 2006 (i.e. the year after the reform). We observe that the proportion of non-tradable shares decreased significantly from 64.3% to 47.1%. The proportion of shares owned by the controlling shareholder also declined substantially from 46.3% to 38.4%. On the other hand, institutional ownership increased significantly from 12.1% to 15.5%. The evidence suggests that the reform reduced the level of controlling ownership and the holdings of non-tradable-share owners, and allowed institutional investors to acquire more shares.

[Table 3 is about here]

We then compare the amount of operational RPTs these firms reported in their 2004 annual reports with that in their 2006 annual reports. Out of the 228 firms that completed the reform in 2005, 167 had non-zero operational RPTs in 2004, and the number increased to 188 in 2006. The average amount of operational RPTs in a firm was RMB 336.7 million in 2004 and increased significantly to RMB 514.2 million in 2006. However, after we scale the amount of operational RPTs by the company's total sales, there is no significant difference; the amount of operational RPTs accounted for 14.9% of total sales in 2004 and 14.6% of total sales in 2006. The evidence suggests that the significant increase in these firms' operational RPTs after the reform is mainly driven by sales.

We also compare the amount of net loan guarantee in these firms in 2004 with that in 2006. Out of the 228 firms that completed the reform in 2005, 103 had non-zero loan guarantee

in 2004, and the number increased to 137. The average amount of net loan guarantee in a firm was RMB 174.4 million in 2004 and increased significantly to RMB 325.6 million in 2006. The amount of net loan guarantee accounted for 8.7% of total assets in 2004 and 11.9% of total assets in 2006; the difference is statistically significant. The evidence indicates that firms obtained significantly more loan guarantee from their related parties after they completed the reform.

We now analyze abnormal returns in days around RPT announcements. We compute abnormal returns based on the market model. For each announcement, we estimate the coefficients of the market model with an estimation period of 200 trading days, from day -210 to day -11, relative to the announcement date (day 0). We use the value-weighted daily return of all stocks in both Shanghai and Shenzhen Stock Exchanges as the market return. The abnormal return is equal to the actual return minus the estimated return according to the market model.

Table 4 reports the average daily abnormal return in event window (-2, 2). We include day -1 and day -2 in the event window to take into account that information about some RPT deals may leak out before public announcements.⁷ The average price impact of the 511 RPT announcements is negative and significant. For the whole sample, the stock price dropped on average by 0.08% each day around an RPT announcement, statistically significant at the 10% level. However, the price impact is much stronger during the period before the reform than after the reform. The average daily abnormal return of the 291 pre-reform announcements is -0.12%, significant at the 5% level. In contrast, the average daily abnormal return of the 220 post-reform announcements is only -0.04%, not significant at any conventional significance level.

[Table 4 is about here]

⁷ To gauge the robustness of our results, we also study three more event windows: (-2, 3), (-1, 2) and (-1, 3). The results are similar and available upon request.

We separate value-enhancing announcements from value-destroying ones by the abnormal return around announcements. Value-enhancing announcements have positive abnormal returns in the event window (-2, 2), while value-destroying ones have negative abnormal returns in the same window. There are 291 RPT announcements before the reform, 132 of which are value-enhancing and the other 159 value-destroying. There are 220 RPT announcements after the reform, 99 of which are value-enhancing and the other 121 value-destroying. Table 4 shows that the average daily abnormal return around value-enhancing RPT announcements is 0.73% before the reform and 0.94% after the reform, while the average daily abnormal return around value-destroying RPT announcements is -0.82% before the reform and -0.84% after the reform.

In summary, the evidence shows that, after having completed the share structure reform, the ownership structure of our sample firms is significantly different, with a smaller proportion of non-tradable shares, a lower percentage ownership of the controlling shareholder, and a higher institutional ownership. These firms reported a significantly higher amount of operational RPTs and received a significantly higher amount of loan guarantee from their related parties, although the increase in operational RPTs is mainly driven by increase in sales. Our analysis of abnormal returns around RPT announcements shows that investors tend to discount firm value upon RPT announcements. This is consistent with findings in previous studies that RPTs are used by controlling shareholders to tunnel wealth at the expenses of minority shareholders (e.g., Jian and Wong, 2004; Cheung et al., 2008). However, while some RPTs destroy firm value, other RPTs increase firm value significantly. Our analysis also shows that, although RPTs on average had a significantly negative announcement effect on firm value before the share structure reform, the announcement effect is on average insignificant after the reform.

4.3. *Institutional trades around RPT announcements*

Our regression analysis in section 4.1 shows that institutional ownership does not have a significant effect on the annual amount of RPTs in a firm. This suggests that institutional investors in Chinese listed firms are unable to influence managerial decision-making, which is likely due to the small percentage of institutional ownership. However, institutional investors may follow the so called “Wall Street Rule” that is to express their views of the company’s performance through buying or selling shares (Gillan and Starks, 2007). Parrino, Sias, and Starks (2003) find that some institutional investors sell their shares when they are dissatisfied with corporate performance. In this section, we examine intraday trades around these announcements to see whether institutional investors indeed vote with their feet in response to RPT announcements.

We classify trades into six categories by trade size (large, medium, or small) and trade direction (buy or sell). Trades that occurred at the ask price are classified as buy trade, while trades that occurred at the bid price are classified as sell trade. It is common in finance literature to infer institutional trading behavior from large trades and individual trading behavior from small trades. We follow Lee (1992) and Lee and Radhakrishna (2000) to use value-based breakpoints to identify large and small trades. The breakpoints depend on both firm size and price level.

- For stocks with the number of shares outstanding not less than 100 million and the price per share not less than RMB5.5, the minimum size for a large trade is RMB100,000 and the maximum size for a small trade is RMB1,800.

- For stocks with the number of shares outstanding not less than 100 million and the price per share less than RMB5.5, the minimum size for a large trade is RMB80,000 and the maximum size for a small trade is RMB1,600.
- For stocks with the number of shares outstanding less than 100 million and the price per share not less than RMB5.5, the minimum size for a large trade is RMB90,000 and the maximum size for a small trade is RMB1,700.
- For stocks with the number of shares outstanding less than 100 million and the price per share less than RMB5.5, the minimum size for a large trade is RMB70,000 and the maximum size for a small trade is RMB1,500.

We compare measures of trading activities in two time periods: the event window around announcement $(-2, 2)$, and the pre-announcement period $(-60, -30)$. This would allow us to tell whether institutions trade differently around RPT announcements. We examine two aspects of trading activities: the dollar volume and the cumulative price impact of trades in the same category.

First, we calculate our measure of the dollar volume in the following way. For each trading day, we calculate the proportion of the total dollar volume of trades in the same category over the total daily dollar volume. For each stock, we then calculate the average of the daily proportions across all days in the same time period. At last, we calculate the average across firms in the sample. We use the t-statistic to test the significance of the difference between window $(-2, 2)$ and window $(-60, -30)$.

[Table 5 is about here]

Panel A of Table 5 shows that on a typical day between day -60 and day -30 before RPT announcement, institutional trades account for 36.0% of the daily trading volume, and individual

trades for only 0.51%. The remaining 63.5% is contributed by medium-size trades. This is consistent with the findings in Barclay and Warner (1993) and Chakravarty (2001) that medium trades account for more than half of trading volume. In days around RPT announcement (i.e. day -2 to day 2), the proportion of institutional trades increases to 38.1%, while the proportion of individual trades decreases to 0.44%. Both institutional buys and institutional sells increase significantly at the 1% and 5% levels respectively, while individual buys and individual sells decrease significantly.

Furthermore, institutional trading activities differ between value-enhancing RPTs and value-destroying RPTs. In days around value-enhancing RPT announcements, institutional buys increase significantly, while institutional sells do not show a significant change. In contrast, in days around value-destroying RPT announcements, institutional sells increase significantly, while institutional buys do not change much. The evidence shows that institutions buy more around value-enhancing announcements and sell more around value-destroying ones. On the other hand, it seems that many individuals often trade in wrong direction as individual buys decrease significantly in days around value-enhancing RPTs and individual sells decrease significantly in days around value-destroying RPTs.

Panel B of Table 5 reports statistics on trading volume around RPT announcements that occurred before firms completed the share structure reform, while Panel C reports statistics for announcements that occurred after the reform. The patterns of both institutional trading and individual trading in Panels B and C are similar to what is observed in Panel A.

Next, we follow Barclay and Warner (1993) and Chakravarty (2001) to construct a measure of the total price impact of trades in the same category. For each trading day, we sort all trades of the same stock by transaction time. Starting from the second trade, we calculate the

price impact of each trade as the difference between the trade's price and the previous trade's price. We ignore the first trade because it is the outcome of a pre-opening auction. We then calculate the total price impact of all trades in the same category as the sum of the price impacts of these trades divided by the within-day price change from the opening to the closing. Then, for a given event day, we calculate the weighted cross-sectional mean of the cumulative stock price impact of trades in the same category across stocks as follows,

$$\text{Weighted CPI} = \frac{\sum_{i=1}^n |PC_i| \cdot CPI_i}{|PC_1| + |PC_2| + \dots + |PC_n|}$$

where CPI_i represents the cumulative price impact of trades in the same category for stock i , PC_i denotes the within-day price change for stock i , and n represents the number of stocks. We follow Barclay and Warner (1993) to use the absolute value of the within-day price change as the weight for each stock. Finally, we calculate the average of the daily cross-sectional means across the days in the event window (-2, 2) and in the pre-announcement period (-60, -30) separately.

Panel A of Table 6 shows the price impact of trades for value-enhancing and value-destroying announcements separately. On a typical day in the pre-announcement period (-60, -30) before value-enhancing announcements, institutional trades account for 63.1% of the within-day price change, and individual trades account for -6.0%. In days around value-enhancing announcements, the price impact of institutional buys increases substantially from 47.1% to 117.2%, while the price impact of institutional sells decreases from 15.9% to -51.0%. Together with what we observe in Table 5, this pattern shows that institutions bought more shares in days around value-enhancing announcements and contributed greater price impact than during the pre-announcement period.

[Table 6 is about here]

On the other hand, in days around value-destroying RPTs, the price impact of institutional buys decreases from 60.0% to 14.6%, while the price impact of institutional sells increases from 5.8% to 58.0%. Again, the evidence in Tables 5 and 6 together shows that institutions sold more shares in days around value-destroying announcements and contributed greater price impact than during the pre-announcement period.

Panel B and C of Table 6 report statistics on the price impact around the pre- and post-reform RPT announcements, respectively. We observe similar patterns of institutional trading in both panels.

In summary, the evidence in Tables 5 and 6 shows that institutional trading in days around RPT announcements differs significantly from that in the pre-announcement period. Institutions buy more shares in days around value-enhancing RPT announcements while they sell more shares in days around value-destroying ones. Their trades have a much larger impact on stock price in days around RPT announcements than in the pre-announcement days.

5. Summary and conclusion

We document evidence on the role that institutional investors play in influencing related party transactions in publicly listed companies in China. Using data for 1,185 Chinese listed companies, we find that the amount of RPTs in a firm is significantly related to several firm-level factors including firm size, leverage, and auditor choice. In particular, it is significantly positively related to the controlling shareholder's ownership, but not significantly related to institutional ownership. This is likely due to the high level of concentrated ownership and the small percentage of institutional ownership.

We further analyze change in stock price and trading activities around RPT announcements of 228 firms that completed the Share Structure Reform in 2005. We find that stock price dropped significantly around the announcements that occurred before firms completed the reform, but showed little change after the reform. In addition, we find that for value-enhancing announcements, both the proportion and the cumulative price impact of *institutional buy* trades increased significantly in days around the announcement relative to the pre-announcement period. On the other hand, for value-destroying announcements, both the proportion and the cumulative price impact of *institutional sell* trades increased significantly. This is consistent with the view that institutional investors vote by selling their shares when firms engage in value-destroying RPTs. Our findings suggest that institutional investors in China follow the “Wall Street Rule” that is to buy or sell a stock rather than try to change the company's policies.

References

- Admati, A.R., Pfleiderer, P., Zechner, J., 1994. Large shareholder activism, risk sharing, and financial market equilibrium. *Journal of Political Economy* 102, 1097-1130.
- Allen, F., Qian, J., Qian, M., 2005. Law, finance, and economic growth in China. *Journal of Financial Economics* 77, 57-116.
- Atanasov, V., 2005. How much value can blockholders tunnel? Evidence from the Bulgarian mass privatization auctions. *Journal of Financial Economics* 76, 191-234.
- Bae, K., Kang, J., Kim, J., 2002. Tunneling or value addition? Evidence from the Korean financial crisis. *Journal of Financial Economics* 71, 265-313.
- Bai, C., Liu, Q., Lu, J., Song, F.M., Zhang, J., 2004. Corporate governance and market valuation in China. *Journal of Comparative Economics* 32, 599-616.
- Barclay, M.J., Holderness, C.G., 1989. Private benefits from control of public corporations. *Journal of Financial Economics* 25, 371-395.
- Barclay, Michael J. and Jerold B. Warner, 1993, Stealth trading and volatility: which trades move prices? *Journal of Financial Economics* 34, 281-305.
- Berkman, H., Cole, R.A., Fu, L.J., 2009. Expropriation through loan guarantees to related parties: Evidence from China. *Journal of Banking & Finance* 33, 141-156.
- Bertrand, M., Mehta, P., Mullainathan, S., 2002. Ferreting out tunneling: an application to Indian business groups. *The Quarterly Journal of Economics* 117, 121-148.
- Chakravarty, Sugato, 2001, Stealth-trading: which traders' trades move stock prices? *Journal of Financial Economics* 61, 289-307
- Chen, D., Jian, M., Xu, M., 2009. Dividends for Tunneling in a Regulated Economy: The Case of China. *Pacific-Basin Finance Journal* 17, 209-223.
- Cheung, Y., Rau, P.R., Stouraitis, A., 2006. Tunneling, propping, and expropriation: Evidence from connected party transactions in Hong Kong. *Journal of Financial Economics* 82, 343-386.
- Cheung, Y., Rau, P.R., Stouraitis, A., 2008. The helping hand, the lazy hand, or the grabbing hand? Central vs. local government shareholders in publicly listed firms in China. Available at SSRN: <http://ssrn.com/abstract=673283>.
- Claessens, S., Djankov, S., Fan, J.P.H., Lang, L.H.P., 2002. Disentangling the incentive and entrenchment effects of large shareholdings. *The Journal of Finance* 57, 2741-2771.

- Deng, Jianping, Jie Gan, and Jia He, 2008, The Dark Side of Concentrated Ownership in Privatization: Evidence from China. Working paper, Hong Kong University of Science and Technology.
- Durnev, A., Kim, E.H., 2005. To steal or not to steal: firm attributes, legal environment, and valuation. *The Journal of Finance* 60, 1461-1493.
- Gillan, S., Starks, L., 2007. The Evolution of Shareholder Activism in the United States. *Journal of Applied Corporate Finance* 19, 55-73.
- Gompers, P., Metrick, A., 2001. Institutional investors and equity prices. *Quarterly Journal of Economics* 116, 229–259.
- Holderness, C.G., 2003. A survey of blockholders and corporate control. *Federal Reserve Bank of New York Economic Policy Review* 9, 51-64.
- Jian, M., Wong, T.J., 2004. Earnings management and tunneling through related party transactions: evidence from Chinese corporate groups. Working paper.
- Johnson, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2000. Tunneling. *The American Economic Review* 90, 22-27.
- Khanna, T., Palepu, K., 2000. Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. *The Journal of Finance* 55, 867-891.
- Klapper, L., Love, I., 2004. Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance* 10, 703-728.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998. Law and finance. *The Journal of Political Economy* 106, 1113-1155.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999. Corporate ownership around the world. *The Journal of Finance* 54, 471-517.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2002. Investor protection and corporate valuation. *The Journal of Finance* 57, 1147-1170.
- La Porta, R., Lopez-de-Silanes, F., Zamarripa, G., 2003. Related lending. *The Quarterly Journal of Economics*, 231-268.
- Kyle, Albert S., 1985, Continuous auctions and insider trading. *Econometrica* 53, 1315-1335.
- Lee, Charles M.C., 1992, Earnings news and small traders. *Journal of Accounting and Economics* 15, 265-302.

Lee, Charles M.C. and Balkrishna Radhakrishna, 2000, Inferring investor behavior: Evidence from TORQ data. *Journal of Financial Markets* 3, 83-111.

Lincoln, J.R., Gerlach, M.L., Ahmadjian, C.L., 1996. Keiretsu networks and corporate performance in Japan. *American Sociological Review* 61, 67-88.

Maug, E., 1998. Large shareholders as monitors: Is there a trade-off between liquidity and control? *Journal of Finance* 53, 65-98.

Mitton, T., 2002. A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics* 64, 215-241.

Morck, R., Shleifer, A., Vishny, R., 1988. Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics* 20, 293-315.

Parrino, R., Sias, R., Starks, L., 2003. Voting with their feet: institutional ownership changes around forced CEO turnover. *Journal of Financial Economics* 68, 3-46.

Shin, H., Park, Y.S., 1999. Financing constraints and internal capital markets: Evidence from Korean 'chaebols'. *Journal of Corporate Finance* 5, 169-191.

Shleifer, A., Vishny, R.W., 1986. Large shareholders and corporate control. *Journal of Political Economy* 94, 461-488.

Sias, R., Starks, L., 1997. Institutions and individuals at the turn-of-the-year. *Journal of Finance* 52, 1543-1562.

Sun, Q., Tong, W., 2003. China share issue privatization: the extent of its success. *Journal of Financial Economics* 70, 183-222.

Walter, C.E., Howie, F.J.T., 2003. *Privatizing China: the Stock Markets and Their Role in Corporate Reform*. John Wiley & Sons (Asia), Singapore.

Zingales, L., 1994. The value of the voting right: a study of the Milan stock exchange experience. *The Review of Financial Studies* 7, 125-148.

Table 1
Descriptive statistics of firm-level variables

This table reports descriptive statistics for firm-level variables that are used in regression analysis. We obtain data from CCER, CSMAR, and WIND databases. The sample consists of 1,185 firms that have the complete information for these variables. Operational RPTs is the total amount of purchases and sales of goods and services from related parties in fiscal year 2004. We scale operational RPTs by sales. Net loan guarantee is equal to loan guarantees a firm received minus loan guarantees the firm offered in fiscal year 2004. We scale net loan guarantee by total assets. Institutional ownership is measured by the percentage of tradable shares held by institutional investors at the end of 2003. Non-tradable portion is the proportion of non-tradable shares to all issued shares at the end of 2003. Controlling stake is the proportion of shares held by the controlling shareholder to all issued shares at the end of 2003, where the controlling shareholder holds the largest number of issued shares, including both tradable and non-tradable shares. Firm size is the total assets in natural logarithm for fiscal year 2004. Leverage is the ratio of total debt to total assets for fiscal year 2004. Return on equity (ROE) is the ratio of net income to total equity for fiscal year 2004. The number of directors, the number of supervisors, and the number of independent directors are at the end of 2003. The dummy variable “BorH” equals one if the firm has B or H shares at the end of 2003. The dummy variable “BigFour” equals one if the firm’s annual report for fiscal year 2003 was audited by one of the big-four accounting firms. The dummy variable “Group” equals one if the firm is controlled by a business group.

Panel A: Summary statistics

	Mean	Median	Std Dev	Minimum	Q1	Q3	Maximum
Operational RPTs scaled by sales	11.01%	2.58%	19.24%	0.00%	0.00%	12.10%	107.00%
Net loan guarantee scaled by total assets	3.71%	0.00%	9.27%	-14.21%	0.00%	4.33%	38.74%
Institutional ownership	4.34%	0.19%	9.08%	0.00%	0.00%	3.70%	61.73%
Non-tradable portion	63.25%	63.64%	11.43%	40.10%	56.03%	70.80%	85.28%
Controlling stake	42.81%	41.66%	17.05%	1.06%	28.79%	57.13%	85.00%
Firm size	21.18	21.10	1.00	17.41	20.55	21.77	26.85
Leverage	52.40%	53.29%	18.95%	0.81%	40.32%	65.53%	99.48%
ROE	4.36%	5.84%	10.70%	-29.40%	1.85%	9.78%	20.17%
# of directors	9.91	9	2.19	5	9	11	19
# of supervisors	4.29	5	1.45	2	3	5	12
# of independent directors	3.18	3	0.89	0	3	4	7
BorH	0.09	0	0.29	0	0	0	1
BigFour	0.08	0	0.28	0	0	0	1
Group	0.45	0	0.5	0	0	1	1

Panel B: Correlation coefficients

	Institutional ownership	Non-tradable portion	Control. stake	Firm size	Leverage	ROE	# of directors	# of supervisors	# of ind. directors	BorH	BigFour	Group
Operational RPTs scaled by sales	0.05**	0.13***	0.24***	0.13***	-0.04	0.02	0.09***	0.10***	0.08***	0.00	0.01	0.19***
Net loan guarantee scaled by total assets	-0.07**	-0.02	0.10***	-0.02	0.01	0.00	-0.06**	-0.08***	0.00	-0.09***	-0.10***	-0.04
Institutional ownership	1	0.18***	0.17***	0.44***	-0.07***	0.28***	0.11***	0.09***	0.07**	0.15***	0.24***	0.12***
Non-tradable portion		1	0.40***	0.13***	-0.03***	0.11***	0.10***	0.06**	0.07**	0.46***	0.29***	0.09***
Controlling stake			1	0.26***	-0.12***	0.18***	-0.01	0.07***	0	-0.05*	0.10***	0.24***
Firm size				1	-0.12***	0.22***	0.23***	0.18***	0.18***	0.23***	0.28***	0.19***
Leverage					1	-0.22***	0.00	-0.02	-0.05*	0.04	-0.06**	-0.06**
ROE						1	0.04	0.05*	0.08***	0.00	0.11***	0.07**
# of directors							1	0.31***	0.65***	0.08***	0.06**	0.11***
# of supervisors								1	0.18***	0.04	0.07**	0.10***
# of independent directors									1	0.02	0.04	0.05*
BorH										1	0.38***	0.04
BigFour											1	0.10***
Group												1

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 2
Determining factors of the amount of RPTs before the Share Structure Reform

This table reports the results of cross-sectional regression analysis that relate the amount of RPTs to firm-level factors. All variables are defined and described in Table 1. The Ordinary Least Squares method (OLS) is used to estimate Models 1, 2, 4, and 5. The Tobit model for operational RPTs treats zero as the lower limit of the dependent variable, the amount of operational RPTs scaled by sales. The dependent variable of the Logit model for loan guarantee is the dummy variable that equals one if a company has non-zero loan guarantee.

Dependent variable	Operational RPTs scaled by sales			Net loan guarantee scaled by total assets		Dummy for Loan guarantee
	1 (OLS)	2 (OLS)	3 (Tobit)	4 (OLS)	5 (OLS)	6 (Logit)
Intercept	-0.43*** (-3.17)	-0.46*** (-3.15)	-0.83*** (-4.26)	0.19*** (2.83)	0.12* (1.63)	0.30 (0.18)
Institutional ownership	-0.06 (-0.91)	-0.05 (-0.79)	-0.09 (-1.02)	-0.04 (-1.34)	-0.04 (-1.15)	-0.72 (-0.93)
Non-tradable portion	0.07 (1.44)	0.11* (1.83)	0.14* (1.66)	-0.05* (-1.86)	-0.02 (-0.79)	-0.69 (-0.99)
Controlling stake	0.24*** (6.56)	0.20*** (5.21)	0.31*** (6.11)	0.09*** (5.22)	0.09*** (4.74)	0.85* (1.93)
Firm size	0.02*** (3.24)	0.02*** (2.56)	0.03*** (3.17)	-0.01*** (-2.93)	-0.01* (-1.64)	-0.09 (-1.15)
Leverage	-0.11*** (-3.53)	-0.11*** (-3.49)	-0.14*** (-3.53)	0.08*** (5.43)	0.07*** (4.85)	1.92*** (5.36)
ROE	-0.08 (-1.52)	-0.08 (-1.57)	-0.03 (-0.49)	0.04* (1.70)	0.04 (1.40)	-0.07 (-0.12)
# of directors		0.00 (0.56)	-0.00 (-0.02)		0.00 (-0.92)	-0.00 (-0.02)
# of supervisors		0.01* (1.71)	0.01** (2.00)		0.00* (-1.63)	-0.00 (-0.04)
# of independent directors		0.01 (1.08)	0.02* (1.65)		0.00 (1.21)	0.16* (1.74)
BorH		-0.01 (-0.53)	0.01 (0.42)		-0.01 (-0.54)	0.04 (0.17)
BigFour		-0.04** (-2.04)	-0.08*** (-2.66)		-0.02* (-1.79)	-0.15 (-0.58)
Group		0.04*** (3.78)	0.06*** (3.88)		-0.01* (-1.79)	-0.09 (-0.75)
Adj. R2	0.076	0.094		0.042	0.048	
# obs.	1,185	1,185	1,185	1,185	1,185	1,185

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 3
Impact of the Share Structure Reform on ownership structure and the amount of RPTs

The sample consists of 228 firms that completed the Share Structure Reform in 2005. This table reports statistics about these firms' ownership structure and related party transactions in the year 2004 (i.e. before the reform) and the year 2006 (i.e. after the reform). Controlling stake is the proportion of shares held by the controlling shareholder to all issued shares, where the controlling shareholder holds the largest number of issued shares, including both tradable and non-tradable shares. Non-tradable portion is the proportion of non-tradable shares to all issued shares. Institutional ownership is measured by the percentage of tradable shares held by institutional investors. Operational RPTs is the sum of purchase/sales of goods and purchases/sales of services with related parties. Net loan guarantee is the loan guarantee a firm received minus the loan guarantee the firm offered. The t and Wilcoxon statistics are used to test the significance of mean and median differences.

		Before reform	After reform	Difference
Panel A: the whole sample				
# of firms		228	228	
Controlling stake	Mean	46.3	38.4	-7.9***
	Median	46.8	36.2	-8.2***
Non-tradable portion	Mean	64.3	47.1	-17.2***
	Median	64.9	48.3	-16.4***
Institutional ownership	Mean	12.1	15.5	3.5***
	Median	4.4	7.2	0.1**
Panel B: subsample of firms with non-zero operational RPTs				
# of firms		167	188	
Amount of operational RPTs scaled by sales	Mean	14.9%	14.6%	1.2%
	Median	6.2%	7.4%	0.2%*
Panel C: subsample of firms with non-zero loan guarantee				
# of firms		103	137	
Amount of net loan guarantees scaled by total assets	Mean	8.7%	11.9%	4.8%***
	Median	6.9%	8.3%	1.6%***

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4
Abnormal returns around RPT announcements

The sample consists of 511 RPT announcements between 1 Jan. 2004 and 31 Dec. 2006. They are announced by the 228 firms that completed the Share Structure Reform in 2005. This table reports the average daily abnormal return in the event window (-2, 2). We measure abnormal returns according to the market model estimated with 200 trading days, i.e., day -210 to day -11, relative to the announcement date (day 0). The market return is the value-weighted daily return of all stocks in both the Shanghai and Shenzhen Stock Exchanges. Value-enhancing RPT announcements have positive abnormal returns during the event window, while value-destroying ones have negative abnormal returns during the event window. The t-statistic is used to test the significance of the mean abnormal returns and reported in parenthesis.

	All RPT announcements	Value-enhancing RPT announcements	Value-destroying RPT announcements
Panel A: # of announcements			
Whole sample	511	231	280
Before the reform	291	132	159
After the reform	220	99	121
Panel B: Abnormal returns in window (-2, 2)			
Whole sample	-0.08%* (-1.67)	0.82%	-0.83%
Before the reform	-0.12%** (-1.95)	0.73%	-0.82%
After the reform	-0.04% (-0.44)	0.94%	-0.84%

Table 5:
Trading activities around RPT announcements

The sample consists of 504 RPT announcements between 1 Jan. 2004 and 31 Dec. 2006. Seven announcements are excluded from this analysis because of insufficient intraday trading data. Panel A is for all announcements, Panel B is for the 284 announcements that occurred before the announcing firms completed the Share Structure Reform, and Panel C is for the 220 announcements that occurred after the reform. Value-enhancing announcements have positive abnormal returns during the event window (-2, 2), while value-destroying ones have negative abnormal returns during the event window. We examine the proportion of trades in four categories: institutional buys, institutional sells, individual buys, and individual sells. The proportion of trades in each category is measured as follows. For a specific stock, on a single day, we calculate the proportion of the total dollar volume on all trades in the same category over the daily dollar volume. We then calculate, for the same stock, the average of the daily proportions across all days in a time period. The table reports the cross-sectional mean of the average daily proportions across all stocks in the event window (-2, 2) and in the pre-announcement period (-60, -30), separately. The t-statistic is used to test the significance of the difference between these two periods.

	All announcements			Value-enhancing announcements			Value-destroying announcements		
	(-60, -30)	(-2, 2)	Difference	(-60, -30)	(-2, 2)	Difference	(-60, -30)	(-2, 2)	Difference
Panel A: for the whole sample of 504 announcements									
institutional buys	17.04%	18.59%	1.61%*** (4.64)	15.91%	19.59%	3.60%*** (6.96)	17.99%	17.77%	-0.05% (-0.12)
institutional sells	18.95%	19.52%	0.60%** (2.05)	18.33%	18.70%	0.43% (0.98)	19.46%	20.19%	0.73%* (1.91)
individual buys	0.26%	0.23%	-0.03%*** (-4.10)	0.28%	0.24%	-0.06%*** (-4.47)	0.23%	0.22%	-0.01% (-1.26)
individual sells	0.25%	0.21%	-0.03%*** (-4.58)	0.28%	0.22%	-0.05%*** (-4.48)	0.23%	0.21%	-0.02% (-2.10)**

Table 5 (Continued):

	All announcements			Value-enhancing announcements			Value-destroying announcements		
	(-60, -30)	(-2, 2)	Difference	(-60, -30)	(-2, 2)	Difference	(-60, -30)	(-2, 2)	Difference
Panel B: for 284 announcements before the reform									
institutional buys	14.96%	16.21%	1.25%*** (2.93)	13.24%	16.32%	2.96%*** (5.00)	16.44%	16.12%	-0.21% (-0.37)
institutional sells	16.54%	17.07%	0.47% (1.23)	15.59%	15.76%	0.25% (0.48)	17.34%	18.15%	0.65% (1.20)
individual buys	0.32%	0.29%	-0.04%*** (-3.08)	0.37%	0.31%	-0.08%*** (-3.77)	0.29%	0.27%	-0.01% (-0.48)
individual sells	0.32%	0.27%	-0.04%*** (-3.07)	0.36%	0.29%	-0.07%*** (-3.64)	0.28%	0.26%	-0.01% (-0.88)
Panel C: for 220 announcements after the reform									
institutional buys	19.72%	21.74%	2.08%*** (3.62)	19.44%	23.94%	4.44%*** (4.90)	19.95%	19.93%	0.15% (0.22)
institutional sells	22.06%	22.76%	0.76%* (1.70)	21.96%	22.62%	0.67% (0.89)	22.13%	22.88%	0.83% (1.56)
individual buys	0.17%	0.15%	-0.02%*** (-3.21)	0.17%	0.14%	-0.03%*** (-2.69)	0.17%	0.16%	-0.02%* (-1.89)
individual sells	0.16%	0.13%	-0.03%*** (-4.56)	0.16%	0.13%	-0.03%*** (-2.85)	0.16%	0.14%	-0.03%*** (-3.64)

Table 6:
Price impact of institutional trades around RPT announcements

The sample consists of 504 RPT announcements between 1 Jan. 2004 and 31 Dec. 2006. Seven announcements are excluded from this analysis because of insufficient intraday trading data. Panel A is for all announcements, Panel B is for the 284 announcements that occurred before the announcing firms completed the Share Structure Reform, and Panel C is for the 220 announcements that occurred after the reform. Value-enhancing announcements have positive abnormal returns during the event window (-2, 2), while value-destroying ones have negative abnormal returns during the event window. We measure the price impact of trades in four categories: institutional buys, institutional sells, individual buys, and individual sells. The total price impact of trades in each category is measured as follows. For each trading day, we sort all trades of the same stock by transaction time. Starting from the second trade, we calculate the price impact of each trade as the difference between the trade's price and the previous trade's price. We ignore the first trade because it is the outcome of the pre-opening auction. We calculate the total price impact of trades in the same category as the sum of the price impacts of these trades divided by the within-day price change (i.e. the closing price minus the opening price). Then, for a given event day, we calculate the weighted cross-sectional mean of the price impact of trades in the same category across stocks as follows,

$$\text{Weighted } CPI = \frac{\sum_{i=1}^n |PC_i| \cdot CPI_i}{|PC_1| + |PC_2| + \dots + |PC_n|}$$

where CPI_i represents the price impact of trades in the same category for stock i , PC_i denotes the within-day price change for stock i , and n represents the number of stocks. The table reports the average of the daily cross-sectional means among the days in the event window (-2, 2) and in the pre-announcement period (-60, -30), separately.

	Value-enhancing announcements		Value-destroying announcements	
	(-60,-30)	(-2,2)	(-60,-30)	(-2,2)
Panel A: for 504 announcements				
institutional buys	47.14%	117.20%	60.01%	14.62%
institutional sells	15.94%	-50.96%	5.84%	57.95%
individual buys	-4.62%	7.89%	-2.90%	-12.54%
individual sells	-1.42%	-10.25%	-3.01%	5.38%
Panel B: for 284 announcements before the reform				
institutional buys	28.10%	77.96%	43.09%	6.63%
institutional sells	20.97%	-26.99%	14.80%	59.23%
individual buys	-7.81%	6.37%	-5.17%	-13.53%
individual sells	1.41%	-8.94%	-1.46%	5.91%
Panel C: for 220 announcements after the reform				
institutional buys	70.26%	163.51%	82.88%	34.20%
institutional sells	10.21%	-80.28%	-6.77%	52.52%
individual buys	-0.83%	9.98%	0.05%	-11.21%
individual sells	-4.74%	-12.40%	-5.09%	4.31%