

Related Party Transactions: A Second Source for Earnings Management –

Evidence from Chinese IPOs

Peng Cheng* and Jean Chen
University of Surrey (UK)

Abstract

Prior literature has identified IPO firms abuse the use of discretionary accruals before the IPO for the purpose of raising the IPO offering price and others. This study examines earnings management behaviors of Chinese IPOs in the pre-IPO period. We argue that there are two ways for IPO firms to manipulate pre-IPO reported earnings: one is to manipulate discretionary accruals, and the other is to structure artificial operating RPTs (non-loan) with controlling shareholders to boost sales and/or profits. Besides some evidence of accrual-based earnings management in the pre-IPO period, we also find that controlling shareholders structure a large percentage of operating RPTs with IPO firms in the pre-IPO year and the IPO year, which are positively associated with the operating performance of IPO firms. In the post-IPO period, controlling shareholders discontinue these RPT-based earnings management practices, so that the positive relation between operating performance of IPO firms and the size of operating RPTs disappears. We find that long-run IPO stock performance is significantly associated with the change in operating RPTs from before to after the IPO (at 1% significance level). IPOs reporting a decline in operating RPTs significantly underperform their industry peers.

Keywords: Related party transactions, Accruals, Earnings management, IPOs

EFM: 180 - Earnings Management and related Issues

* School of Management, University of Surrey, Guildford, Surrey, United Kingdom, GU2 7XH; Tel: 0044 (0)1483 683102; Fax: 0044 (0)1483 689511; Email: p.cheng@surrey.ac.uk

1 Introduction

Prior empirical studies have widely examined the use of accrual-based earnings management around the IPO year, for the purpose of raising the IPO offering price and others. For example, Teoh et al. (1998) examine US IPOs and present evidence that discretionary accruals, which proxy for accrual-based earnings management, are high before the IPO relative to those of non-issuers. Issuers with higher discretionary accruals have poorer performance in the subsequent three years. Roosenboom et al. (2003) also find Dutch issuers raise their reported earnings in the pre-IPO period by manipulating discretionary accruals, and unwind the accruals subsequent to the IPO.

Aharony et al. (2000) focus on Chinese B-share¹ companies and analyze two selected accruals components (annual change in accounting receivables and inventories), which are regarded as their proxies for the magnitude of accrual-based earnings management. They find that accounts receivables of sample IPOs are abnormally high in the pre-IPO period, and low in the post-IPO period. But there is no evidence of such movement in inventories. So, they conclude that Chinese B-share IPOs may engage in accrual-based earnings management by accelerating credit sales prior to the IPO.

In this research, we extend prior research by focusing on a second source of earnings management around the IPO event: i.e. earnings management through related party transactions, or say ‘RPT-based earnings management’. It is believed that, besides accruals manipulation, firms may be able to engage in earnings management through

¹ A-share market is the main market for domestic investors; however, B-share market is designed for overseas investors, and B-share stocks are traded in foreign currencies, either US Dollars or Hong Kong Dollars.

some other approaches, such as ‘channel stuffing’ (Butters, 2001; Harris and Lublin, 2002), and/or related parties (Thomas et al., 2004). So, we argue that IPO firms may structure transactions with controlling shareholders in a way that allows resources to be transferred, or profits to be shifted between the two parties. In the pre-IPO period, controlling shareholders may structure transactions to artificially boost revenues and/or profits of pre-IPO subsidiaries. However, those manipulative transactions will be discontinued in the post-IPO period. This manipulative earnings management practice is also likely to raise the IPO price, if investors fail to see through this accounting trick. Controlling shareholders could benefit from this practice, when they sell the overvalued shares in the aftermarket period.

This study provides empirical evidence based on Chinese A-share IPO market, since Chinese firms use a large amount of RPTs with their controlling shareholders before and/or after the IPO. The remainder of the paper is organized as follows: Section 2 presents the literature review and an introduction to Chinese law and regulations. Section 3 introduces the hypotheses and variables. Section 4 describes the data, and discusses the findings. Section 5 comes to the conclusion.

2 Literature Review

2.1 Earnings Management: an Overview

Earnings management occurs *‘when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual*

outcomes that depend on reported accounting numbers' (Healy and Wahlen, 1999).

Since the mid-1980's, studies of managerial incentives to alter earnings have focused primarily on accruals, because researchers assume that accruals component is more likely to be manipulated by the management than cash flow component is (Benerish, 2001).

2.2 Accruals Management

Accounting accruals are defined as the difference between reported earnings and cash flow from operations, which could further be broken up into non-discretionary accruals and discretionary accruals: Non-discretionary accruals are accounting adjustments to the firm's cash flows mandated by accounting standard-setting bodies. Discretionary accruals are adjustments to cash flows selected by the managers, including provisions for impairment losses and so on. In Appendix A, we briefly present how to calculate discretionary accruals by using modified Jones (1991) model.

Adjustments of discretionary accruals are believed to be a convenient way to manipulate reported earnings, since the nature of accrual-based accounting gives managers a great deal of discretion in determining the actual earnings a firm reports in any given period. The opportunities for managing accruals are provided by GAAP (Generally Accepted Accounting Principles) and are supposed to handle differences in business structures and keep pace with business innovations (Levitt, 1998); however, the discretion in recording accruals may be misused for opportunistic purposes.

If clean surplus principle² holds, accruals will total zero over the long run because the

² clean surplus principle means that the change in net book value of equity equals net profit minus net dividends

sum of earnings must equal the sum of cash flows over the life of business. Consequently, any higher-than-normal accruals in one period must be offset by lower-than-normal accruals in other period. That is to say, issuers may report abnormally high earnings at pre-IPO years by adopting discretionary accruals adjustments that raise reported earnings relative to actual cash flows, but sooner or later, managers have to reverse accruals in subsequent periods. Once the firms reverse discretionary accruals, their performance would seem to be much 'poorer' than before the reversal. Thus, these IPO firms may underperform their industry peers in the stock market.

In addition, it should be recognized that firms may like to unwind the discretionary accruals in a less observable way and spread the process over a longer period without causing reported earnings to drop dramatically. For example, Roosenboom et al. (2003) find that, in the post-IPO years, managers reduce provisions for impairment in an attempt to mitigate the negative effect of the inevitable reversal of current accruals on reported net income.

2.3 Related Party Transactions and Earnings Management

In fact, accruals management is only one of the sources to manipulate reported earnings, and firms may engage in some other earnings management techniques, for example, to abuse the use of related party transactions to allow profits to be transferred between two related parties.

A related party transaction is "*a transfer of resources, services, or obligations between*

related parties, regardless of whether a price is charged, and Parties are considered to be related if one party has the ability to control the other party or to exercise significant influence or joint control over the other party in making financial and operating decisions” (International Accounting Standards, IAS 24.9). Related party transactions among group members can be cost-effective for both sides, because they help reduce transaction costs and enhance the enforcement of property rights and contracts (Coase, 1937).

However, for controlling shareholders, related party transactions can be the mechanism for extracting private benefits of control at the cost of other shareholders (Gorden et al., 2004). McCahery and Vermeulen (2005) further argue that related party transactions might not be undertaken at market prices and can be influenced by the relationship between the two sides. If the transactions are structured at a price other than the market price, then the profits would be shifted between group members, but the consolidated earnings remain generally unaffected (Thomas et al., 2004). For example, Coca-Cola once uses the influential relationship with its bottlers, in which Coca-Cola has large ownership and board seats, to charge a higher price for the concentrate sold to bottlers and boost its profits (McKay, 2002).

It should be noted that RPT-based earnings management is different from accrual-based earnings management, because:

Firstly, firms engage in accrual-based earnings management by borrowing from either the past or the future, but the total earnings over the long run could not be manipulated.

However, RPT-based earnings management occurs between two related parties by injecting valuable assets and/or shifting profits from one party to the other party. The total earnings of one party's entity over the long run may be inflated, but the consolidated earnings remain generally unaffected.

Secondly, accrual-based approach is to merely manipulate the accruals component of reported earnings, and it has nothing to do with the cashflow component of reported earnings. However, RPT-based approach may have an effect on either accruals component or cashflows component of reported earnings. For example, a firm may artificially structure trade relationship with its related party by credit sales. In this case, the firm's cashflow performance will not be affected by this accrual-based manipulative practice. If, otherwise, its related party makes the cash payment for the goods and services transferred, the firm's both earnings performance and cashflow performance will be inflated.

2.4 China's Privatization and RPT Practices

Since the early 1990s, public listing on the stock exchanges is the China's strategy to privatize its State-Owned Enterprises (SOEs). However, China's economic reform is often called as 'one-third privatized' policy (Green, 2003), since Chinese SOEs initially only sell around one third of their equities to public investors, and still retain control. Take the market as a whole, the government agencies ultimately keep 47.9% of total shares for the entire market (China Economy Daily, 2001). Institutional shareholdings,

held by mutual funds and QFIIs³, account for a small percentage of 4% of the overall ownership by 2003 (HKEx, 2004).

Importantly, Chinese listed firms have a close economic relationship with their controlling shareholders, primarily because listed firms originated from one (or a few) profitable unit(s) of their parent SOEs, and they do not even have an independent marketing and distribution network and supply chains, so that they have to sell (or purchase) products (or raw materials) to (or from) their controlling shareholders, and then controlling shareholders re-sell the products to a third party. In other cases, listed firms sell semi-finished goods and products to their controlling shareholders, and then controlling shareholders further develop these semi-finished goods into finished goods. So, in this sense, related party transactions are frequently structured between state-owned controlling shareholders and their listed subsidiaries.

From 1998 onwards, Chinese listed firms have been required to publish transactions between related parties on their annual reports, including the nature of the related party relationship as well as the amount of the transactions. Since then, corporate disclosures show a huge amount of transactions between listed companies and their controlling shareholders. Based on our observations, there are two categories of RPTs between controlling shareholders and listed firms disclosed on corporate annual reports by their economic substance: operating RPTs (or say, non-loan RPTs) and loan RPTs:

(1) Operating items (non-loan RPTs): This category consists of trade relationship and

³ Qualified Foreign Institutional Investors

some other sources of transactions, such as the sales of non-monetary assets, leases, franchises, and administrative overheads (water & electricity supply etc.) and so on. Trade relationship is the main source of RPTs between controlling shareholders and listed firms, including the sales and/or purchases of goods, products and services.

(2) Non-operating items (loans): The second category represents loan transactions, such as cash loans and loans guarantees. In China, a non-financial company is usually not allowed to act as a financial service lender and engage in the business of making customers loans. However, loans offered to related parties are legal. It is reported that more than 54% of Chinese listed firms make cash loans to their controlling shareholders and the aggregate amount of cash loans reaches Chinese ¥57.7 billion by the end of 2003 (Xinhua Net, 2005). Loan guarantee is not a real transfer of economic resources from one party to the other, so that it would not have a significant effect on corporate operating performance, unless the debtor is not able to return the funds to the lending institution. In this case, the guarantor will have to repay it to the creditor, and the operating performance of the guarantor's entity may suffer from it.

2.5 Evidences on RPT-based Earnings Management in China

Jian and Wong (2004) provide evidence of frequent related party transactions in China to manipulate earnings. Using a sample of 131 Chinese listed firms in the raw materials sector, they find that the group-controlled listed firms report abnormally high levels of related party sales to their controlling shareholders, when they have incentives to inflate earnings to avoid being de-listed or prior to rights issues. Once the group-controlled listed firms have generated more free cash flows, they may divert resources back to the

group through providing other member firms generous trade credits.

Liu and Lu (2004) demonstrate that earnings management in China's listed companies is mainly induced by the controlling owners' RPT transactions. They argue that firms with higher corporate governance levels tend to have less earnings management. Their empirical findings although not being able to completely exclude other explanations, strongly suggest that agency conflicts between controlling shareholders and outside investors are the main stimuli of earnings management in China's listed companies.

3 Hypotheses and Methodology

3.1 Hypothesis Development

In this study, we examine the accrual-based earnings management and RPT-based earnings management in the pre-IPO period, and their effects on long-run operating performance and stock performance in the post-IPO period.

3.1.1 Pre-IPO Accruals Management Hypothesis

First of all, we hypothesize that Chinese IPOs may artificially inflate earnings by adjusting discretionary accruals in the pre-IPO period. Good historical operating performance would increase the firm's possibility of being selected for an IPO, since *Company Law* (ed. 1993, CH. 3. 152) in China requires candidate companies to have 3-year operating records with measurable earnings for the 3 consecutive years prior to the IPO. Furthermore, if investors fail to see through earnings manipulation, the IPOs may be offered at a higher price (Teoh et al, 1998).

Aharony et al. (2000) have already examined the two specific accruals items (receivables and inventories) of Chinese B-share IPOs and claim Chinese firms

manipulate accruals prior to the IPO. However, specific accruals models are usually used for a special industry, such as banking (Scholes et al., 1990) or property and casualty insurance (Petroni, 1992), which needs the knowledge of institutional arrangements to characterize the likely discretionary behavior of specific accruals. In this sense, specific accruals models may not be reliable in detecting accruals management for a multi-industry sample. Furthermore, Wang (2005) adopts the same two accruals components to analyze Chinese A-share IPOs, and does not find any evidence of accrual-based earnings management. So, this echoes the importance of using aggregate accruals models to detect accruals management, because there is a possibility that Chinese IPOs continue to manipulate post-IPO earnings through any accruals items other than receivables and inventories.

In this study, we examine the discretionary accruals of Chinese IPOs from before to after the IPO, by using an aggregate accruals model, i.e. modified Jones (1991) model, since Dechow et al. (1995) argue that the modified Jones (1991) model is the most statistically powerful model for detecting accruals management, and it is widely used in prior accruals management studies (Teoh et al., 1998; and Roosenboom et al., 2003).

So, the hypotheses below will be examined:

***H1a:** IPO firms report positive discretionary accruals in the pre-IPO period relative to cash flows; however, they are likely to report negative discretionary accruals in the post-IPO period.*

However, abnormal high discretionary is not sustainable in the long run. Once the IPO is completed, discretionary accruals are likely to reverse in the subsequent years, so that reported earnings would be reduced relative to cash flows. So, the reported earnings

performance in the long run may be negatively affected, and go worse than the pre-IPO level. As a result, IPOs may perform poorly in the aftermarket period.

***H1b:** IPO firms reporting a large DAC figure in the pre-IPO period are likely to perform poorly in stock market.*

3.1.2 Pre-IPO RPT-based Earnings Management Hypothesis

Then, we investigate the effects of RPTs between IPO firms and their controlling shareholders on the long-term IPO operating performance. Since ownership structure for Chinese listed companies is highly concentrated, the interests of controlling shareholders and their listed subsidiaries are highly aligned. Controlling shareholders may be interested in structuring transactions with their listed subsidiaries and help them to achieve income-reporting objectives.

For controlling shareholders' side, this RPT-based earnings management may also be beneficial to controlling shareholders' entity. If public investors fail to see through this earnings management scheme and pay a higher price to buy the shares, public investors have to contribute more to the Shareholders' Equity of the firms than original shareholders. So, the ownership by original shareholders is less diluted resulting from the IPO than it is supposed to. In the post-IPO period, controlling shareholders may also sell these overvalued shares in the market to make a profit. One may argue that, in Chinese A-share market, the shares held by controlling shareholders are categorized as non-tradable shares, which can not be traded publicly on the stock exchanges. However, controlling shareholders are allowed to sell these non-tradable shares off exchanges by

seeking a prospective buyer on their own. In addition, the ban for trading these ‘non-tradable category’ shares on stock exchanges has already been lifted since 2005. Controlling shareholders are now free to sell their shares on exchanges, when a lock-up period ends up.

So, we hypothesize that, besides accrual-based earnings management, transactions with their controlling shareholders might be the second source to boost the earnings figures of IPO firms. For example, IPO subsidiaries may sell goods, products and services to their controlling shareholders, at a higher selling price other than the fair price, and/or purchase raw materials from controlling shareholders at a lower price, so that profits can be shifted from controlling shareholders to IPO firms (or say ‘overcharging’ and ‘underpaying’ respectively). In addition, IPO subsidiaries may also engage in ‘channel stuffing’ to inflate the sales, by aggressively overselling goods to controlling shareholders. Controlling shareholders, as a result, hold excess inventories above the normal level, and do not return products to the subsidiaries before the IPO (or say ‘overselling’). In this way, the pre-IPO sales figures could be inflated through fake transactions with controlling shareholders.

Once IPO subsidiaries get listed, controlling shareholders lose interest in continuingly structuring manipulative transactions with their listed subsidiaries. So, these artificial operating RPTs are likely to decline in the post-IPO period relative to the pre-IPO level. Furthermore, the positive relation between operating RPTs and reported operating performance is likely to fade away in the post-IPO period.

So, we test the following hypothesis:

***H2a:** in the pre-IPO period, reported operating performance of IPOs is positively associated with the aggregate operating RPTs between controlling shareholders and IPO subsidiaries;*

***H2b:** in the post-IPO period, the positive relation between operating RPTs and operating performance of IPOs is not significant.*

Finally, the last hypothesis is developed to examine the market reaction to the pre-IPO earnings management. We argue that investors are very unlikely to fully see through this RPT-based manipulative scheme, even though disclosures of operating RPTs, including the nature and the terms of transactions, should be made on IPO prospectus and/or annual reports. Take an "overcharging" case for example. IPO subsidiaries can abuse the operating RPTs by charging controlling shareholders at an unfairly high price for the goods and products sold; however investors may not be able to observe the fair value of the transactions, particularly when a comparable price in an open market is not available. So, investors cannot tell if the transaction is structured artificially or not. Take an "overselling" case for another example. If IPO subsidiaries aggressively oversell goods to controlling shareholders, financial statements of IPO subsidiaries would not show this overselling practice in any section and investors can hardly observe this practice. The likely way to observe this practice is to check the balance sheets of controlling shareholders' entity to see whether or not controlling shareholders hold excess inventories above the normal inventory levels. However, controlling

shareholders do not disclose their financial statements to the public in China, so that investors are unable to observe this overselling practice.

Since investors cannot see through this pre-IPO RPT-based earnings management, investors may consider these preferential operating RPTs to be genuine, expecting these RPTs to be sustainable and continue in the post-IPO period. However, if controlling shareholders fail to maintain those artificial operating RPTs in the post-IPO period, the long-run stock performance may be negatively affected. So, it is hypothesized that the change in operating RPTs would have a positive effect on the long-run stock performance of IPO firms.

So, we test the following hypothesis as below:

***H2c:** in the post-IPO period, the long-run stock performance of IPO firms is positively associated with the change in operating RPTs from before to after the IPO.*

3.2 Methodology and Variables

In this research, ROA (EBITDA divided by lagged (-1) total assets) and CFO (Net cashflow from operation divided by lagged (-1) total assets) are employed as the operating performance indicators, since they are widely used in prior literature to evaluate the efficiency in making profits. The IPO firms' operating performance is examined after industry adjustment, in order to control for the industry shock. The industry-adjusted operating performance figures are obtained by deducting the median contemporaneous ROA (or CFO) figures of the same 2-digit publicly traded firms (Mikkelson et al., 1997).

The sample firms are segregated into 13 industry groups (1-digit), by using the CSRC's Standard Industry Classification (SIC, 2001), which is currently the only official system to classify Chinese listed firms. We further break the group C into 9 sub-groups (2-digit), because most of sample firms (62%) are categorized into manufacturing Group (Group C). So, in this research, sample firms are divided into these 21 industry (sub-)sectors, and matched publicly traded firms are those which come from the same industry (sub-)sectors and went public prior to the sample IPOs.

Then, we use an OLS cross-sectional regression analysis to investigate the relationship between IPO operating performance and the size of RPTs in the three different periods (the pre-IPO period, the IPO year and the post-IPO period respectively). We use two RPT variables: 'Net loan' and 'Operating items'. 'Net loan' represents the difference between loans by the controlling shareholder to the listed subsidiary and loans by the listed subsidiary to controlling shareholder scaled by lagged (-1) total assets. 'Operating item' is measured as the aggregate amount of all types of RPTs but loan transactions scaled by lagged (-1) total assets. The industry-adjusted ROA and CFO figures are regressed on the 2 line-item RPT variables and a set of control variables, including Firm Size (Natural logarithm of beginning-year total assets), Age (Difference between the establishment year and the IPO year), Capital Expenditure (Asset-scaled capital investment adjusted for depreciation charges in a given year), Government Subsidy (Asset-scaled governmental subsidy received, including tax refunds, and project-specific government grants in a given year), Ownership Type (The type of the controlling shareholder, which is a dummy variable taking the value of 1 if the

controlling shareholder is ultimately owned by the state at the end of the year; 0 otherwise), Ownership Concentration (The proportion of ownership held by the controlling shareholder at the end of the IPO year) and Board Composition (The proportion of directors representing the controlling shareholder in the board at the end of the IPO year). Although such regressions ignore the contemporaneous correlations among variables, and can lead to biased standard errors (but not biased coefficient estimates), this specification provides regression coefficients that allow an easy interpretation of the economic significance. Furthermore, a similar version of regression models has been specified in prior literature (Ritter, 1991; Teoh et al., 1998).

Further, we further investigate the effects of the change in operating RPTs and loan RPTs from before to after the IPO on aftermarket stock performance of Chinese IPOs. The two stock performance measures, BAHRs (buy and hold returns) and CARs (cumulative abnormal returns), are used to evaluate the aftermarket abnormal performance of Chinese IPOs, since both of them are widely used in prior literature to identify long-term abnormal performance (Teoh et al., 1998; Roosenboom et al., 2003), but neither of them is always preferred (Gompers and Lerner, 2003). The yearly benchmark-adjusted returns are calculated as the yearly raw return on a stock minus the yearly benchmark return for the corresponding trading period. So, the benchmark-adjusted BAHRs and the CARs for an IPO firm i in event year t are calculated as follow:

$$BAHR_{i,t} = \prod_{s=1}^t (1 + R_{i,s}) - \prod_{s=1}^t (1 + R_{m,s})$$

$$CAR_{i,t} = \sum_{s=1}^t (R_{i,s} - R_{m,s})$$

Where $R_{i,s}$ represents the raw stock return of stock i in event year Y ($s = 1, 2, 3, 4$), and $R_{m,s}$ is the contemporaneous benchmark return in event year Y ($s = 1, 2, 3, 4$). The aftermarket period includes the following 4 years where years are defined as successive 252-trading-day periods relative to the IPO date. Thus, the event year 1 consists of event days 2-252, and the event year 2 consists of event days 253-504. For IPOs that are de-listed before their 4-year anniversary, the aftermarket period is truncated, and the 4-year return ends with its last listing. In addition, the buy-and-hold returns and Cumulative abnormal returns are both inclusive of dividends and other distributions.

In this study, we follow Ritter (1991) by using matching firms for a benchmark, which denote those already-listed firms matched by industry, primarily because IPO long-run operating performance is industry-adjusted by matching firms, and IPO long-run stock performance should also be adjusted by an industry-matched firms benchmark. So, the benchmark return used in this study is the median contemporaneous stock return of a group of matched publicly traded firms.

We further perform an OLS cross-sectional regression analysis to investigate the relationship between aftermarket stock performance of Chinese IPOs and the change in RPTs resulting from the IPO. The four-year benchmarked BAHRs and CARs are regressed on the two RPT variables: ‘ Δ Net loan’ and ‘ Δ Operating items’, which are measured as the change in loan RPTs and operating RPTs respectively from the IPO

year to the post-IPO years. An explanatory variable of Discretionary accruals has also been introduced, which is the asset-scaled discretionary accruals in Y (-1) year, calculated by using modified Jones (1991) model, after industry adjustment. A set of control variables has been included: such as Firm Size (The normal logarithm of total assets at the end of the IPO year), Age (The difference between the establishment year and the IPO year), Δ Capital Expenditure (The average decline in capital expenditure from Y (-1) year to the post-IPO years (between Y (0) year and Y (+3) year), scaled by lagged (-1) total assets) and Δ Government Subsidy (The average decline in government subsidy from Y (-1) year to the post-IPO years (between Y (0) year and Y (+3) year), scaled by lagged (-1) total assets), Ownership Type (The type of the controlling shareholder, which is a dummy variable taking the value of 1 if the controlling shareholder is ultimately owned by the state at the end of the year; 0 otherwise), Ownership Concentration (The proportion of ownership held by the controlling shareholder at the end of the IPO year) and Board Composition (The proportion of directors representing the controlling shareholder in the board at the end of the IPO year).

4 Empirical Results

4.1 Data Collection and Sample Distribution

This research uses the IPOs offered in Chinese A-share market, whose first trading day over stock exchange is between 1st January 1999 and 31st December 2000. The sample IPOs should have accounting figures and RPT disclosures available from one year

before till four years after, and data for stock returns available up to 4 years after the IPO. As a result, 239 IPO cases are included into our final research sample.

Firstly, we choose IPOs offered in the period (1999-2000), because China made a major GAAP change towards IAS/IFRS in 1998. Since then, disclosures of the related party relationships and transactions are required in full details as a separate section on the footnotes of financial statements. So, data on RPTs between controlling shareholders and IPO firms can be manually collected from firms' IPO prospectuses and/or their annual reports.

Secondly, we only investigate the six-year operating performance of these IPOs, including one year before the IPO year (Y (-1) year) and four year after the IPO year, because accounting data, particularly RPT data, in Y (-2) year or before are not fully available. IPO firms are only required to publish RPT transactions of one fiscal year prior to the IPO on IPO prospectuses. Operating performance and stock performance figures are provided by Shenzhen Securities Info Co., Ltd and GreatWise Info Co. Ltd respectively.

In Table 1, Panel A describes sample distribution by industry sectors, and Panel B presents descriptive statistics of sample firms in comparison to the contemporaneous figures of the whole market, in terms of Sales, Total Assets, EBITDA, Return on Assets and Operating Cash Flow on Assets. Sample firms are of a magnitude similar to the whole market by means of operation scales and profitability. For example, Sales figures of the sample firms are Chinese ¥1.44 billion (mean value) and 0.70 billion (median

value) respectively, and the figures for the market are ¥1.90 billion and 0.62 billion respectively. The mean and median values of EBITDA for sample companies are Chinese ¥ 0.21 billion and ¥ 0.09 billion respectively, and ¥ 0.27 billion and ¥ 0.08 billion for the entire market. Moreover, mean tests and median tests (not reported here) show that the differences of the two groups are not statistically significant at any effective level.

[Take in table 1 here]

4.2 Long-term IPO Operating Performance

Panel A of the table 2 shows the industry-adjusted ROA figures from Y (-1) year to Y (+4) year. It is clear that IPO firms report significantly better earnings performance than industry peers in the pre-IPO year by 12.71% (t-statistic = 10.39) in mean value and 10.18% (z-statistic = 8.43) in median value respectively. IPO firms continue to outperform their industry peers in terms of ROA figures in the IPO year, but this abnormally high earnings performance is reduced to 7.06% (mean value, t-statistic = 4.76) and 3.40% (median value, z-statistic = 6.20) respectively. This abnormally high earnings performance fades away in Y (+1) year and Y (+2) year, since earnings performance of IPO firms further report lower the market slightly, but it is not statistically significant at any effective level. Panel B reports industry-adjusted cashflow performance from Y (-1) year to Y (+4) year. It shows that IPO firms report significantly higher CFO figures than industry peers by 6.74% (mean value, t statistic 2.79) or 2.54% (median value, z statistic = 3.81) respectively in Y (-1) year. However, from the IPO

year onwards, the industry-adjusted CFO figures report no significant outperformance, and fluctuate around the zero point.

[Take in table 2 here]

Table 2 shows that, in terms of both ROA and CFO figures, IPO firms report extraordinarily better operating performance in the pre-IPO period, however, the abnormally outperformance fades away in the pre-IPO period. This finding is consistent with prior research that Chinese IPOs experience a sharp deterioration in operating performance from pre-IPO level to post-IPO level (Wang et al., 2001; Chen and Shih, 2004; Wang, 2005). However, our results indicate that the deteriorating performance is formed, primarily because IPO firms abnormally outperform the industry peers in terms of operating performance in the pre-IPO period, and this abnormally outperformance disappears after the IPOs are successfully listed.

We conjecture that the pre-IPO performance figures may have been significantly inflated. It is important to recognize that cashflow figures are also abnormally high in Y (-1) year, showing that IPO firms may engage in some manipulative schemes other than accrual-based approach to manage reported operating performance, because accrual-based earnings management has no effect on cashflow components of reported earnings.

4.3 Discretionary Accruals around the IPO

Table 3 presents assets-scaled discretionary accruals (DAC) before and after the IPO, net of the median contemporaneous figure of the same 2-digit publicly traded firms. It is

clear that the mean value and the median value of DAC in the Y (-1) year are 0.079 (t statistic = 5.03) and 0.075 (z statistic = 5.96) respectively, indicating that IPO firms report abnormally high discretionary accruals in the pre-IPO period. It indicates that managers may artificially manipulate discretionary accruals to push reported earnings performance higher in the pre-IPO period.

[Take in table 3 here]

Moreover, the magnitude of discretionary accruals in the IPO year still stay significantly high, and the mean and the median of discretionary accruals are 0.102 (t statistic = 7.76) and 0.090 (z statistic = 6.60) respectively. However, DAC then declines in the Y (+1) year, but still stays positive: the mean value and the median value are 0.016 (t statistic = 1.76) and 0.020 (z statistic = 1.61) respectively. The median value is no longer statistically significant at any effective level. In Y (+3) and Y (+4) year, DAC becomes negative (-0.013 and -0.008 in mean values, t statistic = -1.53 and -1.04 respectively; -0.015 and -0.010 in median values, z statistic = 2.09 and 1.79 respectively). The median values are statistically significant at 10% level, showing that IPO firms begin to reverse discretionary accruals from the Y (+3) year on, as expected.

The abnormal change in discretionary accruals may reveal a likely earnings manipulation through discretionary accruals. Table 3 confirms that IPO firms artificially manipulate discretionary accruals upwards to inflate reported earnings in the pre-IPO year. It also shows that there is a significant decline in discretionary accruals in the post-IPO period, relative to the pre-IPO level, which could lead to a decline in reported earnings in the aftermarket period. The finding does indicate that managers are likely to unwind discretionary accruals a bit in the post-IPO years, however the evidence of unwinding is not strongly significant. Although the median values of negative

discretionary accruals in the Y (+3) year and the Y (+4) year are significant, the mean values are not statistically significant at any effective level. A further data examination on the industry-adjusted discretionary accruals shows that the two sets of data distributions are positively skewed (skewness = 0.425 and 0.439 respectively), and there are some outlier sample firms, which push the mean values of the two distributions upwards. It seems that some Chinese IPOs do not significantly unwind the discretionary accruals in the post-IPO period. This finding is likely to be consistent with Roosenboom et al. (2003) that managers may slow down the unwinding process of discretionary accruals in the aftermarket period, perhaps for the purpose of mitigating the negative effects of unwinding the accruals.

One of the possible explanations is that Chinese IPOs tend to delay the unwinding process and the reversal of discretionary accruals would be spread over a long period, i.e. longer than 4 years after the IPO. It is found that Chinese IPO firms do not considerably unwind the accruals in the first four years subsequent to the IPO, but they may be able to unwind the accruals at a later time. Chinese accounting practices seem to be supportive of this conjecture, because:

Firstly, due to strong governmental intervention in financial reporting practices, accounting estimates and accounting choices under Chinese GAAP are not freely flexible, in which case discretionary accruals are not fully under the control of managers. After the promulgation of 1998 GAAP reform (CMOF, 1998), listed firms have been allowed to determine provisions for impairment loss of loans and receivables, investments and inventories; however, the government still keeps the control over the provisions for the rest of tangible and intangible assets and fixed assets depreciation policy. So, Chinese managers can only manipulate some of accruals items that have been reformed in the 1998 GAAP. More importantly, it should be noted that these

reformed accruals items are still not at the full discretion of managers, even after the 1998 GAAP reform, because the government constantly plays a vital role in influencing listed firms' accounting practices. For example, write-offs of obsolescent assets may be subject to the approval by the responsible government agency, and the alteration of accounting estimates may also be reviewed by government officials. So, in this sense, it may take a longer time to see the reversal of discretionary accruals, since discretionary accruals are less controllable by managers.

Secondly, the slow unwinding process of discretionary accruals in the post-IPO period may be resulting from the low quality of financial reporting practices in China. The reversal of discretionary accruals in the post-IPO period is based on the assumption that the capital market is well established and financial reporting practice is of high quality on a prudent basis. If managers adopt discretionary accounting accrual adjustments to raise reported earnings relative to actual cash flows in the pre-IPO period, they have to be confronted with the pressure from outside reviewers in the post-IPO period. In a well-built market, financial statements are subject to the prudent scrutiny by many third-party reviewers, like external auditors and independent directors, institutional investors and market regulators. So, in this sense, it is very unlikely to see that firms in developed markets carry obsolescent assets on their balance sheets for a long time before writing off the impaired assets. However, this may not be the case in China, primarily because Chinese market is still underdeveloped: the quality of external auditors is relatively low; corporate governance is newly established and weak; and institutional ownership is too small to make a difference. In this case, Chinese firms are likely to keep these impaired assets on their balance sheets for long, and fail to unwind the accruals in a timely manner.

Finally, we investigate how the market reacts to the managers' accruals-based earnings

management around the IPO. In Table 4, stock returns are measured by using benchmark-adjusted Buy-And-Hold Returns (BAHRs) and Cumulative-Abnormal>Returns (CARs), and IPO firms are further split into four quartile portfolios by the DAC in the Y (-1) year.

[Take in table 4 here]

Panel A shows mean values of benchmark-adjusted BAHRs in four pre-IPO DAC portfolios: the quartile portfolio (Q4) that reports the largest positive DAC in the pre-IPO years are likely to underperform their industry peers by more than 15% over 2 years or longer; however, the remaining portfolios (Q1, Q2, Q3), which report a small positive DAC or negative DAC in pre-IPO years, do not seem to substantially underperform their industry peers. Panel B further confirms the finding by using the CARs. In Panel B, the largest positive DAC portfolio (Q4) seem to underperform their industry peers by more than 10% over 2 years or longer; however the other three quartile portfolios perform much better than Q4, and do not seem to either underperform (and/or outperform) their industry peers.

Table 4 presents evidence that IPO firms, which report the largest positive DAC in the pre-IPO period, are likely to perform poorly in the stock market. In other words, pre-IPO accruals management is likely to be associated with stock underperformance in the post-IPO period. However, table 4 reveals no linear relation between pre-IPO DAC and post-IPO stock performance, because those who report a negative DAC in the pre-IPO period do not perform differently in comparison to IPOs reporting a small positive DAC in the pre-IPO period and/or their industry peers.

4.4 RPT practices

Table 5 reports the six line-item RPTs between controlling shareholders and their IPO subsidiaries in terms of actual amount scaled by lagged (-1) total assets. The first line item describes the loan transactions between the two parties, which is measured as the loans by controlling shareholders to IPO subsidiaries net of the loans offered by listed companies to their controlling shareholders. The remaining line items demonstrate non-loan operating transactions, which cover trade relationships, non monetary transactions, administrative services, royalties and leases etc.

[Take in table 5 here]

As a whole, the total amount of related party transactions scaled by lagged (-1) total assets starts at 24.18% in the Y (-1) year, and reaches a peak of 30.17% in the IPO year. However, it declines to 20.12% in the Y (+1) year, and then remains stable from that year on. The first 2 line items in table 5, which include Net loans and trade relationship, show the most active transactions between controlling shareholders and IPO subsidiaries. Trade relationship is the largest type of RPTs in value. The percentage in Y (-1) year is 19.49%, and rises to 21.48% in the IPO year. It significantly declines to 13.86% in Y (+1) year and fluctuates in a range from 12.77% to 15.27% later on. Net loans begin at 0.45% in Y (-1) year, and soon turn to be a negative figure (-3.73%) in the IPO year. It shows that IPO firms start to make loans to controlling shareholders as soon as getting listed. From Y (+1) year onwards, the percentage remains to be negative, and the absolute value seems to narrow down steadily from 3.24% in Y (+1) year to 1.85% in Y (+4) year.

Table 5 shows two important findings: First of all, operating RPTs, particularly trade relationship, significantly decrease from the pre-IPO period to the post-IPO period. It seems that there is a relation between pre-IPO operating RPTs and post-IPO operating RPTs. So, our sample IPOs are further segregated into 4 quartile portfolios by the aggregate amount of operating RPTs in the Y (-1) year. Table 6 presents the operating RPTs segregated in 4 quartile portfolios over the 6 years from Y (-1) year to Y (+4) year. It shows that the first three quartile portfolios (Q1, Q2 and Q3), which report relatively small operating RPTs in the pre-IPO period, remain to report a small amount of operating RPTs in the post-IPO period, and these operating RPTs do not seem to decline from before to after the IPO. However, the fourth quartile portfolio (Q4) reports a tremendously large operating RPTs in the pre-IPO period, and there is a clear decline in operating RPTs from before to after the IPO. Table 6 shows a positive relation between pre-IPO RPTs and post-IPO RPTs: controlling shareholders structure a large percentage of operating RPTs to benefit their IPO subsidiaries in the pre-IPO period are likely to reduce those beneficial RPTs in the post-IPO period. Otherwise, operating RPTs do not seem to decline from before to after the IPO.

[Take in table 6 here]

Secondly, IPO subsidiaries begin to make significant cash loans to controlling shareholders as soon as the IPO event is completed, but they are more likely to make loans in the IPO year and the years immediately subsequent to the IPO year. IPO firms are financially capable to make loans to their controlling shareholders without running short of working capitals, because IPO firms normally keep a large amount of unused IPO proceeds in their bank accounts. However, if controlling shareholders use their

influential relationship with IPO firms to obtain cash loans, which are extraordinarily larger than IPO firms can comfortably afford, a concern of expropriation may arise. So, it is interesting to investigate whether these loans have an effect on IPO operating performance and stock performance.

4.5 IPO Operating Performance segregated by pre-IPO operating RPTs

In table 7, we further investigate the relationship between pre-IPO operating RPTs and long-term post-IPO operating performance of Chinese IPOs. If pre-IPO reported operating performance is artificially manipulated through operating RPTs, it is expected that IPO firms with larger non-loan RPTs (operating RPTs) in the pre-IPO period are likely to report better operating performance in the pre-IPO period; and those IPO firms are likely to suffer a quicker decline in operating performance from before to after the IPO. The finding in table 7 is supportive of this expectation.

[Take in table 7 here]

In panel A and B, sample firms are sorted by the magnitude of pre-IPO operating RPTs, which is measured as the aggregate amount of non-loan RPTs in the Y (-1) year scaled by the lagged (-1) total assets, and we then segregate same firms into four quartile portfolios. Portfolio Q1 represents the IPO firms reporting smallest pre-IPO operating RPTs, while portfolio Q4 represents the IPO firms reporting largest pre-IPO operating RPTs.

Panel A presents the mean values of industry-adjusted ROA figures of IPO firms in the four quartile portfolios. In Y (-1) year and Y (0) year, the mean values of industry-adjusted ROA for portfolio Q1 are the lowest among the four portfolios (7.16%, t statistic = 5.76; 2.08%, t statistic = 2.59 respectively), however, portfolio Q4 reports

the largest (20.31%, t statistic = 5.86; 14.25%, t statistic = 3.02). It indicates that IPO firms with larger pre-IPO operating RPTs are likely to report better earnings performance in the pre-IPO period. Furthermore, there is a significant decline in earnings performance from before to after the IPO for all of the four quartile portfolios, but IPO firms with larger pre-IPO operating RPTs are likely to report a larger decline in earnings performance from before to after the IPO. For example, Portfolio Q1 reports a decline from 7.16% to -0.03%; whilst portfolio reports a larger decline from 20.13% to 0.96%.

Panel B presents the mean values of industry-adjusted CFO figures for the four quartile portfolios before and after the IPO. Portfolio Q4 with the largest pre-IPO operating RPTs reports the abnormally highest cashflow performance in Y (-1) year (16.47%, t statistic = 1.95) among the four different quartile portfolios; while the remaining three portfolios (Q1, Q2, Q3) report relatively lower cashflow performance (2.62%, 3.45% and 3.67% respectively). Furthermore, it seems that IPO firms with largest pre-IPO non-loan RPTs report an evidently large decline in cashflow performance from 16.47% in the pre-IPO period to 2.35% in the post-IPO period; however all the other three portfolios do not seem to report a strong decline in cashflow performance from before to after the IPO.

Table 7 confirms the expectation that pre-IPO operating performance may have been artificially exaggerated through non-loan RPTs. We find that IPO firms with larger non-loan RPTs in the pre-IPO period are likely to report better operating performance in the pre-IPO period; and consequently those IPO firms are likely to suffer a quicker decline in operating performance from before to after the IPO.

4.6 OLS Cross-sectional Regression Analysis

We then use an OLS cross-sectional regression analysis to investigate the relationship between IPO operating performance and the size of RPTs.

[Take in table 8 here]

Table 8a presents the regression results, when ROA is regressed on RPT variables. The first two models explain 18.3% and 21.0% (R^2) of the variation of the dependent variable respectively (F statistics = 2.19 and 2.61 respectively). The estimated coefficients of variable 'Operating items' in the two models are found to be strongly positive (0.078 and 0.083 respectively) and statistically significant (at 5% significance level), indicating that non-loan transactions significantly contributes to the IPO earnings performance between the Y (-1) year and the Y (0) year. The coefficients of variable 'Net loan' are positive (0.198 and 0.206 respectively) as to the first two years, and none is found strongly significant (t statistic = 0.81 and 1.13 respectively). Further, for the remaining model, the R^2 value increases up to 27.3% (F statistic = 3.68). Evidently, the estimated coefficient of 'operating items' decreases to 0.044 (t statistic = 1.67), showing that the relation between operating RPTs and earnings performance is not statistically significant any more in the post-IPO period. Interestingly, the estimated coefficient of 'Net loan' in the post-IPO period is positive (0.318, t statistic = 3.23) at 1% significance level. As shown in Table 5, 'Net loan' turns to be negative figures in the post-IPO years, which mean loan transactions by listed firms to controlling shareholders. The regression result shows that such loans have a negative effect on post-IPO earnings performance.

Table 8b further provides regression results, when the dependent variable 'ROA' is replaced with 'CFO'. The first two models explain 9.0% and 16.4% (R^2) of the variation of the dependent variable (CFO) respectively (F statistic = 0.95 and 1.91 respectively). The coefficients of variable 'Operating items' in the first model is found to be positive (0.082, t statistic = 2.17) at 5% significance level, indicating that non-loan transactions significantly contributes to the IPO cashflow performance in Y (-1) year. However, the positive relationship between non-loan RPTs and cashflow performance turns out to be statistically insignificant in the post-IPO period, since the estimated coefficient is 0.045 (t statistic = 1.61). Once again, the coefficient of variable 'Net loan' in Y (0) year is found to be positive (0.837, t statistic = 2.88) and statistically significant at 1% level. The estimated coefficient maintains to be positive (0.286, t statistic = 2.62), indicating that 'Net loan' is positively associated with post-IPO cashflow performance.

Table 8 provides evidence to confirm that operating performance of IPO firms, in terms of reported earnings and cashflow, is highly related to the RPTs between controlling shareholders and IPO firms. It is found that the size of non-loan RPTs is positively associated with pre-IPO operating performance. But, this positive relationship fades away, when the firms are listed. We argue that controlling shareholders used to structure a large amount of non-loan transactions beneficial to their IPO subsidiaries in the pre-IPO period; however, in the post-IPO period, controlling shareholders structure less non-loan RPTs to benefit IPO firms.

Furthermore, IPO firms significantly make cash loans to their controlling shareholders from the IPO year onwards, and such loans may have a negative effect on post-IPO

operating performance. A further data examination shows that most IPO firms report a very small amount of cash loans made to controlling shareholders; however, a small number of IPO firms (6% of our sample) make substantial cash loans to controlling shareholders in the post-IPO period, which, on average, account for more than 10% of total assets of IPO firms. In an extreme case, an IPO firm (stock code: 000885) makes loans to its controlling shareholder in cash that, on average, amount to 40% of its total asset in the post-IPO period. It is believed that a huge amount of such loans may be likely to severely deteriorate the operating performance of IPO firms, but the effect of a small amount of these loans is limited.

4.7 RPTs and Stock Returns

Table 9 presents the four regression results, which indicate the relationship between long-run stock performance of Chinese IPOs and RPT variables. The first two models, in which benchmark-adjusted BAHRs are regressed on RPT variables and a set of control variables, explain 21.9% and 24.9% (R^2) of the variation of the dependent variable respectively (F statistic = 8.82 and 2.88 respectively). The estimated coefficients of variable ‘ Δ Operating items’ in the two regressions are found to be strongly positive (0.291 and 0.244 respectively) and highly significant (at 1% level), indicating that there is a positive relation between the change in operating RPTs from before to after the IPO and long-run stock performance of IPO subsidiaries. The last two regression results, in which benchmark-adjusted CARs are regressed on RPT variables and a set of control variables, are also supportive of this finding. The two models explain 14.0% and 16.3% (R^2) of the variation of the dependent variable respectively (F statistic = 5.13 and 1.69 respectively), and the estimated coefficients of variable

‘ Δ Operating items’ are strongly positive (0.264 and 0.225 respectively) significant at 1% level. As shown in table 9, the change in operating RPTs from before to after the IPO is positively associated with long-run stock performance of IPO firms. It shows that if IPO firms reduce operating RPTs with controlling shareholders in the post-IPO period, they are likely to underperform their industry peers.

[Take in table 9 here]

Moreover, regression results show that estimated coefficients of variable ‘ Δ Net loan’ are also positive (0.178, 0.198, 0.038 and 0.084 respectively), but not statistically significant. It shows that IPO firms involved with cash loans to controlling shareholders in the post-IPO period are likely to perform poorly in the market, however the evidence is not statistically significant. Interestingly, cash loans significantly deteriorate IPO firms’ operating performance; however, they do not seem to significantly damage IPO firms’ stock performance in the long run. We further examine the stock performance of those IPO firms who report a huge percentage of cash loans to controlling shareholders in the post-IPO period, and find that some of the stocks do not perform as badly as expected. Take the extreme case (stock code: 000885) for example. The IPO firm reports a huge negative earnings in the post-IPO period resulting from the large cash loans to its controlling shareholder, but the stock only shows a small loss of -2.7% (industry-adjusted CARs) in 4-year even time after the IPO. We notice that the IPO firm won a Court Order to seize the stocks held by the controlling shareholder to be sold at public auction to repay the debt and the damage resulting from the debt. The IPO firm has been announces a take-over bid from a third party and a substantial restructuring plan further brought by the new controlling shareholder. These announcements seem to recover investors’ confidence and are likely to push stock price rebound.

Finally, regression results also show that estimated coefficients of variable ‘Discretionary accruals’ are all negative (-0.203, -0.201, -0.265 and -0.224 respectively), indicating pre-IPO DAC may be negatively associated with long-run stock performance in the aftermarket period. However, there is no significant linear relation between pre-IPO DAC and post-IPO stock performance. In an earlier section (table 4), it is clear that even though IPOs with a large positive DAC in the pre-IPO period are likely to perform badly in the stock market in comparison to other IPOs, the remaining three quartile portfolios do not perform differently from one other. So, in this sense, a linear relation between pre-IPO DAC and post-IPO stock performance does not exist.

5 Conclusion

This study examines the operating performance of Chinese IPOs, and the effects of related party transactions (RPTs) between IPO firms and their controlling shareholders on the pre- and/or post-IPO performance. We find that Chinese IPOs significantly outperform the industry peers in terms of operating performance (ROA and CFO) during the pre-IPO period, but the abnormal outperformance relative to the industry disappears in the post-IPO period. We argue that the operating performance deterioration is partly because pre-IPO operating performance may be inflated. There are two ways for IPO firms to manipulate reported earnings in the pre-IPO period: one is to manipulate discretionary accruals, and the other is to abuse the use of operating RPTs with controlling shareholders to boost sales and/or profits.

We find evidence that IPO firms report abnormally high discretionary accruals in Y (-1) year and Y (0) year; however, from Y (+3) year onwards, it seems that IPO firms begin

to unwind the accruals slowly. The change in discretionary accruals from the pre-IPO period to the post-IPO period will have a significant effect on long-term reported earnings performance of IPO firms. Even though there is no linear relation between pre-IPO discretionary accruals and post-IPO stock performance, we do find that IPO firms reporting the large positive discretionary accruals in the pre-IPO period are likely to underperform their industry peers in stock market and/or underperform the remaining IPO firms.

We also argue that the deterioration in operating performance is also partly because operating performance of IPO firms may be inflated through related party transactions in the pre-IPO period. Controlling shareholders structure a large percentage of non-loan RPTs with IPO firms in the pre-IPO year and the IPO year, which are positively associated with the operating performance of IPO firms. In the post-IPO period, controlling shareholders discontinue these RPT-based earnings management practices, so that the positive relation between operating performance of IPO firms and the size of operating RPTs fades away. Then, we find that aftermarket stock performance is significantly associated with the change in operating RPTs from before to after the IPO (at 1% significance level). So, the decline in operating RPTs is highly likely to lead the stocks to underperform their industry peers.

Appendix A:

Discretionary accruals are computed as follows:

$$\text{Discretionary accruals} = \text{Net income} - \text{Operating cash flow} - \text{Non-discretionary accruals}$$

Nondiscretionary variables are expected accruals from the modified Jones (1991) model and the discretionary variables are the residuals. Expected accruals for an IPO firm i in a given year t are estimated from a cross-sectional regression in that year of total accruals on the change in sales using an estimation sample of all listed firms in the same industry subcategories. Specifically, for each year t in the test period, run the following cross-sectional regression:

$$\frac{TAC_{j,t}}{TA_{j,t-1}} = \alpha_0 \left(\frac{1}{TA_{j,t-1}} \right) + \alpha_1 \left(\frac{\Delta SALES_{j,t} - \Delta TR_{j,t}}{TA_{j,t-1}} \right) + \alpha_2 \left(\frac{PPE_{j,t}}{TA_{j,t-1}} \right) + \varepsilon_{j,t}$$

Where $TAC_{j,t}$ is the total accruals for IPO firm's peers j at year t ; $\Delta SALES$ is the year-to-year change in sales revenues; ΔTR is the change in trade receivables; PPE is the gross level of property, plant and equipment; and TA is the beginning total assets.

The asset-scaled nondiscretionary accruals for IPO firm i in year t , $NTAC_{i,t}$, is computed using the estimated coefficients and as:

$$NTAC_{i,t} \equiv \hat{\alpha}_0 \left(\frac{1}{TA_{i,t-1}} \right) + \hat{\alpha}_1 \left(\frac{\Delta SALES_{i,t} - \Delta TR_{i,t}}{TA_{i,t-1}} \right) + \hat{\alpha}_2 \left(\frac{PPE_{i,t}}{TA_{i,t-1}} \right)$$

Where $\hat{\alpha}_0$ is the estimated intercept; $\hat{\alpha}_1$ and $\hat{\alpha}_2$ are the slope coefficients for IPO firm i at year t . The residual total accruals are the asset-scaled excess accruals for IPO firm i in year t , $DAC_{i,t}$, which is calculated as:

$$DAC_{i,t} \equiv \left(\frac{TAC_{i,t}}{TA_{i,t-1}} \right) - NTAC_{i,t}$$

References:

- Aharony, J., Lee, C.W.J., and Wong, T.J., 2000, Financial Packaging of IPO Firms in China, *Journal of Accounting Research* 38, 103–126.
- Berglof, E., 1995, Corporate Governance In Transitional Economies: The Theory and Its Policy Implications. In *Corporate Governance in Transitional Economies: insider control and the role of banks*. (M. Aoki and H. Kim) Washington, D.C.: World Bank.
- Cai, J., and Wei. K., 1997, The investment and operating performance of Japanese IPO, *Pacific-Basin Finance Journal* 5, 389-417.
- Chan, K., Wang J.B., and Wei, K.C., 2004, Underpricing and Long-term Performance of IPOs in China, *Journal of Corporate Finance* 10, 409-430.
- Chen, C., and Shih, H., 2004, Initial Public Offering and Corporate Governance in China's Transitional Economy, *NBER-EAST Asia Seminar on Economics* 12, University of Chicago Press, ISBN: 0-226-38679-1.
- Chen, J.J., and Cheng, P., 2006, Corporate Governance and Accounting Harmonisation with IFRS– Evidence from China, *Corporate Governance: an International Review* Forthcoming.
- Cheung, Y., Rau, P.R., and Stouraitis, A., 2004, Tunneling, Propping and Expropriation Evidence from Connected Party Transactions in Hong Kong, *Journal of Financial Economics* Forthcoming.
- Cheung, Y., Jing, L., Rau, P.R., and Stouraitis, A., 2006, How does the grabbing hand grab? Tunneling assets from Chinese listed companies to the State, Working paper, City University of Hong Kong.
- China's Constitution, 2004, English version may be available at: <http://www.helpinelaw.com/law/constitution/china/china01.php>
- Claessens, S., Djankov, S., Fan, J., and Lang, L., 1999, Expropriation of Minority Shareholders in East Asia, *Work Bank*, working paper.
- CMOF, 1998, Accounting System for Joint Stock Limited Companies: Accounting and Financial Statements, *File: CK [1998] No.7*.
- CNINFO, 2006, Survey on the Board of Directors (2005), may be available on <http://www.cninfo.com.cn/default.htm>
- Coase, R. H., 1937, *The Firm, The Market and The Law*, University of Chicago Press. ISBN: 0226111016.
- Cook, K.S., 1977, Exchange and power in networks of inter-organisational relations, *Sociological Quarterly* 18, 62-82.
- CSRC, 2001, Standard Industrial Classification for Listed Companies, 4th April 2001.

- CSRC & SETC (2002), Code of Corporate Governance for Listed Companies in China, *File: Zhengjianfa [2002] No.1*, (http://www.csrc.gov.cn/en/homepage/index_en.jsp).
- CSRC, 2004, China's Securities and Futures Markets, Yearly report, http://www.csrc.gov.cn/en/homepage/index_en.jsp
- Dechow, P., R. Sloan, and Sweeney, A., 1995, Detecting Earnings Management, *Accounting Review* 70, 193–225.
- Dollar D., and Kraay, A., 2000, Growth is Good For the Poor, Mimeo, World Bank: Washington DC.
- Feeney, T., 2002, Bail Set For Adelphia Execs, July 24 2002, may be available on CBS News online: <http://www.cbsnews.com/stories/2002/09/23/national/main522992.shtml>
- Green, S., 2003, 'Two-Thirds Privatisation': How China's Listed Companies are Finally Privatisation. *China Project Paper*, The Royal Institute of International Affairs, London.
- Gompers, P., and Lerner, J., 2003, The really long-run performance of initial public offerings: the pre-Nasdaq evidence, *Journal of Finance*, forthcoming.
- Gorden, E., Henry, E., and Palia, D., 2004, Related Party Transactions: Associations with Corporate Governance and Firm Value, Working Paper, Rutgers Business School.
- HKEx, 2004, Institutional Investors in Mainland China, Research and Planning of HKEx (<http://www.hkex.com.hk/research/r-papers/IIMC.pdf>).
- Huang, S., and Song, F., 2003, The Financial and Operating Performance of China's Newly Listed H-firms, *working paper*.
- Jain, B. A., and Kini, O., 1994, The Post-issue Operating Performance of IPO Firms, *Journal of Finance* 49, 1699–1726.
- Jensen, M. C., and Meckling, W. H., 1976, Theory of The Firm: Managerial Behaviour, agency costs and ownership structure, *Journal of Financial Economics* 3, 305–360.
- Jian, M., and 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., and Shleifer, A., 2000, Tunneling, *The American Economic Review* 90, 22-27.
- Jones, J.J., 1991, Earnings Management During Important Relief Investigation, *Journal of Accounting Research* 29, 193–228.
- Kooli, M., and Suret J.M., 2003, The aftermarket performance of Canadian IPOs, *Journal of Multinational Financial Management*, forthcoming.

- Kim, K. A., Kitsabunnarat, P., and Nofsinger, J. R., 2004, Ownership and Operating Performance In an Emerging Market: Evidence From Thai IPO Firms, *Journal of Corporate Finance* 10, 355-381.
- Kutsuna, K., Okamura, H., and Cowling, M., 2002, Ownership Structure Pre- and Post-IPOs and The Operating Performance of JASDAQ Companies, *Pacific-Basin Finance Journal* 10, 163– 181.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131-1150.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 1998, Law and finance, *Journal of Political Economy* 106, 1113-1155.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 2000, Investor protection and corporate governance, *Journal of Financial Economics* 58, 3-28.
- La Porta, R., Lopez-deSilanes, F., Shleifer, A., Vishny, R., 2002, Investor Protection and Corporate Valuation, *Journal of Finance* 57, 1147-1170.
- Levis, M., 1993, The long-run performance of initial public offerings: The UK experience 1980-1988, *Financial Management* 22, 28-41.
- Liu, Q., and Lu, Z., 2004, Earnings Management to Tunnel: Evidence from Chinese Listed firms, Working paper, University of Hong Kong.
- Ljungqvist, A., 1997, Pricing Initial Public Offerings: Further evidence from Germany, *European Economic Review* 41, 1309-1320.
- Loughran, T., and Ritter, J. R., 1995, The New Issues Puzzles, *Journal of Finance* 50, 23–51.
- McCahery J.A., Vermeulen, E.P., 2005, Corporate Governance Crises and Related Party Transactions: A Post-Parmalat Agenda, Working Paper, Amsterdam Centre for Corporate Finance.
- McKay, B., 2002, Coca-Cola: Real Thing Can be hard to measure, *Wall Street Journal*, 23rd Jan. 2002.
- Mikkelson, W. H., Partch, M. M., and Shah, K., 1997, Ownership and Operating Performance of Companies That Go Public, *Journal of Financial Economics* 44, 281–307.
- Ritter, J. R., 1991, The Long-run Performance of Initial Public Offerings, *Journal of Finance* 46, 3–27.
- Roosenboom, P., Goot, T., and Gerard, M., 2003, Earnings Management and Initial Public Offerings: Evidence From the Netherlands, *International Journal of Accounting* 38, 243–266.

- Teoh, S. H., Welch, I., and Wong, T. J., 1998, Earnings Management and The Long-run Market Performance of Initial Public Offerings, *Journal of Finance* 53, 1935–1974.
- Thomas, W., Herrmann, D., and Inoue, T., 2004, Earnings Management Through Affiliated Transactions, *Journal of International Accounting Research* 3 (2), 1–25.
- Wang C., 2005, Ownership and operating performance of Chinese IPOs, *Journal of Banking & Finance* 29, 1835–1856.
- Wang, X., Xu, L. C., and Zhu, T., 2001, Is Public Listing a Way Out for State-Owned Enterprises? The Case of China, *Working paper*.
- Xinhua Net, 2005, Cash Loans to Controlling Shareholders, News Release (5th April 2005), may be available online at:
http://news.xinhuanet.com/fortune/2005-04/05/content_2786775.htm

Table 1: Data Description

Panel A: Sample companies distributed by industry

SIC (2001)	Sample	Whole Market ⁴
A Agriculture, forestry, & fishing	10	30
B Mining	5	20
C Manufacturing	153	742
- C0 Foods and beverages	(14)	(58)
- C1 Textiles, suits and leathers	(16)	(56)
- C2 Wood products and furniture	(1)	(2)
- C3 Papers, stationery, sporting, musical instruments	(4)	(24)
- C4 Petroleum refining, chemicals, and allied products	(27)	(136)
- C5 Electronic, electric components and home appliances	(5)	(39)
- C6 Mineral products and metal products	(27)	(117)
- C7 Equipments and machineries	(35)	(194)
- C8 Drugs and Biologic products	(24)	(82)
D Water, electricity, and gas	9	52
E Construction	4	25
F Transport & public utilities	13	55
G Information technology	12	79
H Wholesale and retail trade	10	96
I Finance and insurance	2	10
J Real estate	1	45
K Service	12	41
L Publishing, media, and allied services	1	11
M Miscellaneous products and services	7	81
TOTAL	239	1287

Source: Standard Industry Classification of China (2001) promulgated by the CSRC

Panel B: Sample statistics (unit: billion Chinese RMB Yuan)

		Mean	Median	Min	Max
Sales	Sample	1.44	0.70	0.03	15.63
	Market	1.90	0.62	0.00	417.19
Total assets	Sample	5.19	1.50	0.43	279.30
	Market	4.94	1.34	0.02	503.89
EBITDA	Sample	0.21	0.09	-0.22	1.95
	Market	0.27	0.08	-1.07	63.01
Return on Assets (%)	Sample	7.27%	6.84%	-13%	30%
	Market	8.52%	7.12%	-68%	205%
Cashflow from operation (%)	Sample	6.89%	5.47%	-15%	88%
	Market	5.37%	4.84%	-90%	268%

Note: Return on assets: EBITDA scaled by lagged (-1) total assets

Cashflow from operation: net cash inflow from operations scaled by lagged (-1) total assets

Table 2: Industry-adjusted Operating Performance around the IPO

Panel A: ROA

	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year
Median (Z-statistic)	10.18%*** (8.43)	3.40%*** (6.20)	-0.79% (0.87)	-0.07% (0.45)	-0.82% (1.07)	-1.08% (1.43)
Mean (t-statistic)	12.71%*** (10.39)	7.06%*** (4.76)	0.09% (0.11)	0.10% (0.13)	-0.44% (-0.72)	-0.65% (-0.91)
Maximum	80.40%	119.00%	43.02%	20.74%	17.26%	21.91%
Minimum	-8.30%	-9.10%	-18.01%	-24.95%	-18.73%	-20.82%
Standard Deviation	0.121	0.146	0.076	0.071	0.060	0.070

* * * * * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Note: ROA (Return of Assets): EBITDA divided by the lagged (-1) total assets less the median contemporaneous ROA figures of the same 2-digit publicly traded firms

Panel B: CFO

	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year
Median (Z-statistic)	2.54%*** (3.81)	-2.26% (1.37)	1.09%* (1.70)	1.12%* (1.70)	0.13% (0.03)	-0.91% (0.53)
Mean (t-statistic)	6.74%*** (2.79)	-0.41% (-0.17)	1.72% (1.45)	2.55%** (2.08)	-0.28% (-0.35)	-0.70% (-0.78)
Maximum	179.36%	176.52%	59.23%	83.99%	24.13%	22.10%
Minimum	-29.26%	-42.59%	-45.60%	-19.33%	-24.73%	-28.25%
Standard Deviation	0.23	0.23	0.12	0.14	0.07	0.08

* * * * * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Note: CFO (Cash flow from operations): net cash flows from operations divided by the lagged (-1) total assets less the median contemporaneous CFO figures of the same 2-digit publicly traded firms

⁴ Ending at year 2003

Table 3: Industry-adjusted asset-scaled discretionary accruals (DAC)

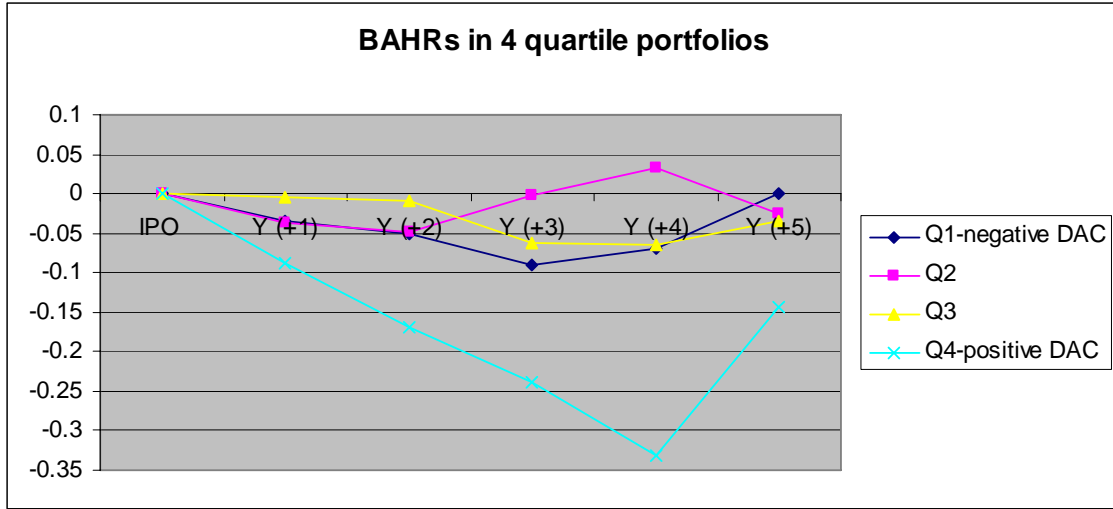
	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year
Mean (t-statistic)	0.079*** (5.03)	0.102*** (7.76)	0.016* (1.76)	-0.007 (-0.84)	-0.013 (-1.53)	-0.008 (-1.04)
Median (Z-statistic)	0.075*** (5.96)	0.090*** (6.60)	0.020 (1.61)	0.000 (0.13)	-0.015* (2.09)	-0.010* (1.79)
Maximum	0.660	0.520	0.460	0.190	0.260	0.280
Minimum	-0.530	-0.190	-0.230	-0.250	-0.270	-0.320
Standard Deviation	0.155	0.130	0.093	0.083	0.085	0.096

* ** *** Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

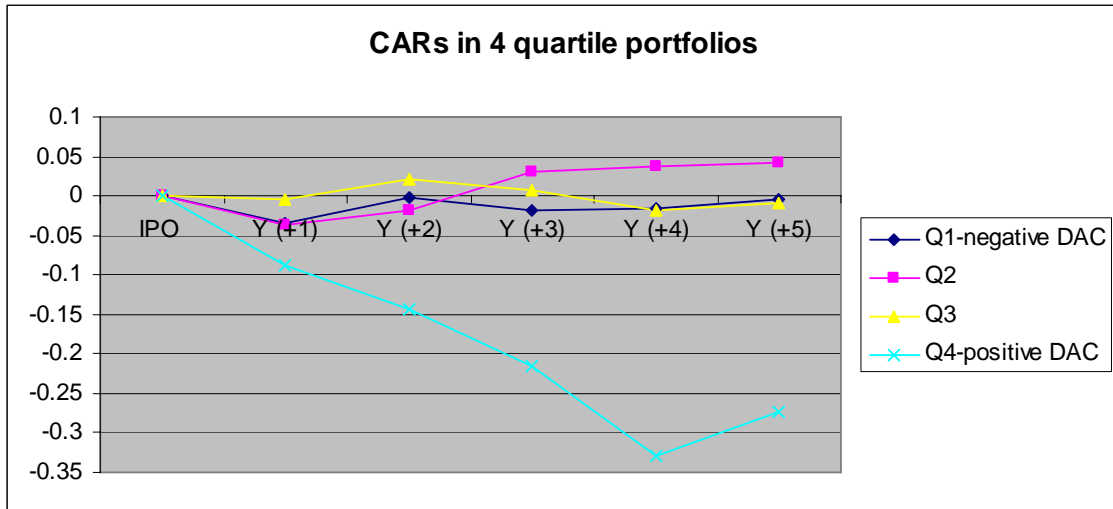
Note: DAC: Assets-scaled discretionary accruals, which is computed by using the modified Jones (1991) model, less the median contemporaneous figure of the same 2-digit publicly traded firms

Table 4: Market Reaction to Accrual-based Earnings Management

Panel A: Long-term market-adjusted BAHRs (Buy-And-Hold Returns)



Panel B: Long-term CARs (Cumulative Abnormal Returns)



Note: BAHRs (or CARs) in four DAC quartiles: The mean value of BAHRs (or CARs) in a quartile portfolio starting from the second trading day to an event year ($i = 1,2,3,4,5$) less the contemporaneous benchmark return.

Cut-off variable (DAC): The average of industry-adjusted asset-scaled discretionary accruals (DAC) in the Y(-1) year.

Table 5: Related party transactions before and after the IPO

	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year
Net loan (t-statistic)	0.45% (0.81)	-3.73%*** (-4.32)	-3.24%*** (-4.21)	-2.23%*** (-3.50)	-2.83%*** (-3.95)	-1.84%** (-3.15)
Trade_relationship (t-statistic)	19.49%*** (5.21)	21.48%*** (5.54)	13.86%*** (5.58)	15.27%*** (5.58)	12.78%*** (5.35)	14.94%*** (4.46)
Non_monetary_asset (t-statistic)	0.70% (1.50)	2.01%** (2.25)	1.54%*** (3.73)	1.76%*** (2.84)	0.82%*** (3.33)	2.10%*** (3.21)
Administrative_service (t-statistic)	0.65%*** (4.39)	0.46%*** (5.00)	0.27%*** (5.46)	0.50%*** (3.51)	0.33%*** (2.82)	0.38%*** (3.00)
Royalty (t-statistic)	0.02% (1.00)	0.02% (1.00)	0.00% (1.00)	0.00% (1.00)	0.06% (1.00)	0.02% (1.00)
Lease (t-statistic)	0.00% (1.00)	0.00% (1.00)	0.01% (1.48)	0.01%** (2.38)	0.00%** (2.30)	0.00%** (1.92)
Total Amount	24.18%*** (5.92)	30.17%*** (6.74)	20.12%*** (7.29)	22.14%*** (7.42)	17.88%*** (7.16)	21.71%*** (5.68)

* ** *** Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Variables definition

1. Net loan	The difference between loans provided by controlling shareholders to their listed subsidiaries and loans provided by listed subsidiaries to their controlling shareholders; loans guarantees should not be included, if not executed
2. Trade_relationship	The sales and/or purchases of goods, products, and services between controlling shareholders and their listed subsidiaries
3. Non_monetary_asset	The sales and/or acquisitions of non-monetary assets between controlling shareholders and their listed subsidiaries, such as tangible and intangible assets
4. Administrative_service	Expenses paid from controlling shareholders (or listed subsidiaries) to listed subsidiaries (or controlling shareholders) for obtaining administrative services and the use of private resources
5. Royalty	The annual expenses paid for the use of patents, permits and Franchises between controlling shareholders and listed subsidiaries
6. Lease	The annual expenses paid for operating and financial leases between controlling shareholders and listed subsidiaries
7. Total Amount	The aggregate amount of related party transactions, which includes all the six types of transactions above

Note: Related party transactions: the real amounts scaled by the lagged (-1) total assets

Table 6: Operating RPTs segregated by pre-IPO operating RPTs quartiles

Quartiles	Tests	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year
Q1 (smaller)	Mean (t-statistic)	0.08%*** (2.95)	5.04%** (2.17)	6.00%* (1.97)	3.01%*** (3.67)	3.89%** (2.05)	2.61%*** (3.25)
Q2	Mean (t-statistic)	1.64%*** (8.38)	7.77%** (2.37)	5.49%*** (3.09)	10.20%** (2.24)	10.18%** (2.42)	17.17%* (1.93)
Q3	Mean (t-statistic)	9.40%*** (8.54)	10.99%*** (6.98)	12.70%*** (5.93)	17.91%*** (4.41)	10.80%*** (4.62)	15.68%*** (4.07)
Q4 (larger)	Mean (t-statistic)	76.84%*** (7.60)	77.53%*** (6.64)	40.16%*** (5.26)	40.78%*** (4.84)	32.55%*** (4.22)	35.85%*** (3.87)
One-way ANOVA	F statistic (sig.)	56.99*** (0.00)	33.57*** (0.00)	14.97*** (0.00)	10.21*** (0.00)	7.54*** (0.00)	4.19*** (0.00)

Note: Grouping variable (pre-IPO non-loan RPTs): The aggregate amount of related party transactions other than loans and loans guarantees (which cover the sales and/or purchases of goods, products, services non-monetary assets and royalties and leases etc) in the Y (-1) year scaled by the lagged (-1) total assets

Table 7: Operating performance segregated by pre-IPO operating RPTs quartiles

Panel A: ROA figures

Quartiles	Tests	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year	Post-IPO Average
Q1 (smaller)	Mean (t-statistic)	7.16%*** (5.76)	2.08%** (2.59)	-0.85% (-1.11)	1.15% (1.57)	-0.01% (-0.08)	-0.44% (-0.53)	-0.03% (-1.08)
Q2	Mean (t-statistic)	10.23%*** (8.45)	3.64%** (2.76)	-1.36% (-1.10)	-0.59% (-0.36)	-0.54% (-0.53)	-1.91% (-1.60)	-0.76% (-1.63)
Q3	Mean (t-statistic)	12.51%*** (6.06)	7.59%*** (3.49)	-0.10% (-0.07)	-0.83% (-0.53)	-1.05% (-0.72)	-1.83% (-1.29)	-0.95% (-1.44)
Q4 (larger)	Mean (t-statistic)	20.31%*** (5.86)	14.25%*** (3.02)	2.84% (1.13)	0.65% (0.39)	-0.18% (-0.08)	1.87% (0.90)	0.96% (0.79)
One-way ANOVA	F statistic (sig.)	6.50*** (0.00)	3.98** (0.01)	1.52 (0.23)	0.51 (0.67)	0.21 (0.88)	1.35 (0.27)	1.68 (0.17)

* * * * * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Panel B: CFO figures

Quartiles	Tests	Y (-1) Year	IPO Year	Y (+1) Year	Y (+2) Year	Y (+3) Year	Y (+4) Year	Post-IPO Average
Q1 (smaller)	Mean (t-statistic)	2.62%** (2.38)	-5.64%* (-1.85)	1.57% (0.85)	3.56%** (2.22)	-2.40% (-1.48)	-1.08% (-0.52)	1.65% (0.28)
Q2	Mean (t-statistic)	3.45% (1.61)	0.54% (0.23)	2.23% (1.25)	-1.63% (-1.02)	0.74% (0.55)	1.89% (1.45)	0.80% (1.16)
Q3	Mean (t-statistic)	3.67% (1.52)	-2.64% (-1.01)	-0.59% (-0.39)	3.97%* (1.80)	-1.07% (-1.18)	-3.37%* (-1.72)	-1.06% (-0.71)
Q4 (larger)	Mean (t-statistic)	16.47%* (1.95)	5.89% (0.77)	3.48% (0.96)	4.06% (1.13)	2.15% (1.29)	-0.29% (-0.14)	2.35% (1.19)
One-way ANOVA	F statistic (sig.)	2.24* (0.08)	1.28 (0.28)	0.51 (0.67)	1.21 (0.30)	1.86 (0.14)	1.36 (0.25)	1.00 (0.39)

* * * * * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Note: Grouping variable (operating RPTs): The aggregate amount of related party transactions other than loans and loans guarantees (which cover the sales and/or purchases of goods, products, services non-monetary assets and royalties and leases etc) in the Y (-1) year scaled by the lagged (-1) total assets

Post-IPO Average: The mean amount of operating performance between the IPO (+1) year and the Y (+4) year

Table 8a: Earnings Performance Regressed on RPT Variables

$$ROA_i = \beta_0 + \beta_1 * Net_loan_i + \beta_2 * Operating_items_i + \beta_3 * Size_i + \beta_4 * Age_i + \beta_5 * Capital_expenditure_i + \beta_6 * Government_subsidy_i + \beta_7 * Ownership_type_i + \beta_8 * Ownership_concentration_i + \beta_9 * Board_Composition_i + \varepsilon_i$$

		Predicted Sign	Coefficients		
			Before IPO (Y-1 year)	IPO year (Y+0 year)	After IPO (4 years averaged)
	Intercept (t-statistic)	+/-	0.735** (2.33)	-0.019 (-0.05)	-0.042 (-0.28)
RPT variables	Net loan (t-statistic)	+	0.198 (0.81)	0.206 (1.13)	0.318*** (3.23)
	Operating items (t-statistic)	+	0.078** (2.35)	0.083** (2.10)	0.044 (1.67)
Control variables	Size (t-statistic)	+	-0.062* (-1.86)	0.006 (0.16)	-0.001 (-0.09)
	Age (t-statistic)	+	-0.010 (-1.59)	-0.006 (-0.80)	0.000 (0.07)
	Capital_expenditure (t-statistic)	+	0.045 (0.59)	0.129** (2.10)	-0.000 (-0.02)
	Government_subsidy (t-statistic)	+	-0.290 (-0.32)	0.534 (0.65)	0.564 (1.37)
	Ownership_Type (t-statistic)	-	-0.044 (-1.30)	-0.062 (-1.52)	-0.032** (-2.04)
	Ownership_concentration (t-statistic)	-	0.003 (0.03)	0.056 (0.43)	0.106** (2.04)
	Board_composition (t-statistic)	-	0.071 (1.59)	0.083 (1.49)	0.025 (1.21)
R ²			18.3%	21.0%	27.3%
Adjusted R ²			9.9%	13.0%	19.9%
F Statistic			2.19	2.61	3.68
White's test (P-value)			0.29	0.16	0.11

* * * * * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Table 8b: Cashflow Performance Regressed on RPT Variables

$$CFO_i = \beta_0 + \beta_1 * Net_loan_i + \beta_2 * Operating_items_i + \beta_3 * Size_i + \beta_4 * Age_i + \beta_5 * Capital_expenditure_i + \beta_6 * Government_subsidy_i + \beta_7 * Ownership_type_i + \beta_8 * Ownership_concentration_i + \beta_9 * Board_Composition_i + \varepsilon_i$$

		Predicted Sign	Coefficients		
			Before IPO (Y-1 year)	IPO year (Y+0 year)	After IPO (4 years averaged)
	Intercept (t-statistic)	+/-	0.232 (0.65)	-0.032 (-0.05)	-0.341** (-2.05)
RPT variables	Net loan (t-statistic)	+	-0.374 (-1.21)	0.837*** (2.88)	0.286** (2.62)
	Operating items (t-statistic)	+	0.082** (2.17)	0.074 (1.18)	0.045 (1.61)
Control variables	Size (t-statistic)	+	-0.025 (-0.67)	-0.010 (-0.16)	0.033* (1.91)
	Age (t-statistic)	+	0.003 (0.52)	-0.000 (-0.05)	-0.001 (-0.53)
	Capital_expenditure (t-statistic)	+	0.111 (1.00)	0.053 (0.54)	0.020 (0.54)
	Government_subsidy (t-statistic)	+	0.406 (0.40)	1.682 (1.29)	0.667 (1.45)
	Ownership_Type (t-statistic)	-	-0.055 (-1.43)	-0.010 (-0.15)	-0.008 (-0.48)
	Ownership_concentration (t-statistic)	-	0.081 (0.64)	0.084 (0.40)	0.062 (1.07)
	Board_composition (t-statistic)	-	-0.021 (-0.41)	0.172* (1.91)	0.028 (1.20)
R ²			9.0%	16.4%	25.1%
Adjusted R ²			-0.4%	7.8%	17.5%
F Statistic			0.95	1.91	3.29
White's test (P-value)			0.17	0.18	0.13

* ** *** Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Definition:

ROA	Industry-adjusted EBITDA scaled by lagged (-1) total assets in a given year/period
CFO	Industry-adjusted net Cashflow from Operations scaled by lagged (-1) total assets in a given year/period
Net loan	The loans by controlling shareholders to listed subsidiaries net of loans by listed subsidiaries to controlling shareholders in a given year/period, scaled by lagged (-1) total assets
Operating items	The operating RPTs in a given year/period, scaled by lagged (-1) total assets
Size	The normal logarithm of total assets at the end of the IPO year
Age	The difference between the establishment year and the IPO year
Capital expenditure	The capital investment (adjusting for depreciation charges) in a given year/period scaled by lagged (-1) total assets
Government subsidy	The aggregate amount of government subsidy received in a given year/period by lagged (-1) total assets
Ownership concentration	The proportion of ownership held by the controlling shareholder at the end of the IPO year
Ownership type	The type of the controlling shareholder, which is a dummy variable taking the value of 1 if the controlling shareholder is ultimately owned by the state at the end of the year; 0 otherwise
Board Composition	The proportion of directors representing the controlling shareholder in the board at the end of the IPO year.

Table 9: Long-term Stock performance regressed on RPT Variables

$$(1.1) BAHR_i = \beta_0 + \beta_1 * \Delta Net_loan_i + \beta_2 * \Delta Operating_items_i + \beta_3 * DAC_i + \varepsilon_i$$

$$(1.2) BAHR_i = \beta_0 + \beta_1 * \Delta Net_loan_i + \beta_2 * \Delta Operating_items_i + \beta_3 * DAC_i + \beta_4 * Size_i + \beta_5 * Age_i + \beta_6 * \Delta Capital_expenditure_i + \beta_7 * \Delta Government_subsidy_i + \beta_8 * Ownership_type_i + \beta_9 * Ownership_concentration_i + \beta_{10} * Board_Composition_i + \varepsilon_i$$

$$(2.1) CAR_i = \beta_0 + \beta_1 * \Delta Net_loan_i + \beta_2 * \Delta Operating_items_i + \beta_3 * DAC_i + \varepsilon_i$$

$$(2.2) CAR_i = \beta_0 + \beta_1 * \Delta Net_loan_i + \beta_2 * \Delta Operating_items_i + \beta_3 * DAC_i + \beta_4 * Size_i + \beta_5 * Age_i + \beta_6 * \Delta Capital_expenditure_i + \beta_7 * \Delta Government_subsidy_i + \beta_8 * Ownership_type_i + \beta_9 * Ownership_concentration_i + \beta_{10} * Board_Composition_i + \varepsilon_i$$

		Predicted Sign	Coefficients			
			Model one		Model two	
	Intercept (t-statistic)	+/-	-0.112 (-1.63)	-1.647 (-1.28)	-0.107 (-1.34)	-1.233 (-0.81)
Explanatory variables	Δ Net loan (t-statistic)	+	0.178 (1.01)	0.198 (1.04)	0.038 (0.18)	0.084 (0.37)
	Δ Operating items (t-statistic)	+	0.291*** (4.97)	0.244*** (3.45)	0.264*** (3.86)	0.225*** (2.72)
	DAC (t-statistic)	-	-0.203 (-0.55)	-0.201 (-0.51)	-0.265 (-0.62)	-0.224 (-0.48)
Control variables	Size (t-statistic)	+	N/A	0.190 (1.37)	N/A	0.136 (0.84)
	Age (t-statistic)	+	N/A	-0.022 (-0.83)	N/A	-0.018 (-0.57)
	Δ Capital_expenditure (t-statistic)	+	N/A	-0.039 (-0.51)	N/A	-0.078 (-0.88)
	Δ Government_subsidy (t-statistic)	+	N/A	0.040 (0.04)	N/A	-0.297 (-0.26)
	Ownership_Type (t-statistic)	-	N/A	-0.057 (-0.40)	N/A	-0.052 (-0.31)
	Ownership_concentration (t-statistic)	-	N/A	-0.095 (-0.20)	N/A	-0.045 (-0.08)
	Board_composition (t-statistic)	-	N/A	0.123 (0.64)	N/A	0.147 (0.66)
R ²			21.9%	24.9%	14.0%	16.3%
Adjusted R ²			19.4%	16.2%	11.3%	6.7%
F Statistic			8.82	2.88	5.13	1.69
White's test (P-value)			0.02	0.66	0.01	0.16

*** ** * Denote significance (2-tailed) at 0.10, 0.05 and 0.01 level, respectively

Definition:

BAHR	The benchmark-adjusted post-IPO Buy-and-hold return calculated starting from the second trading year up to four years in event time
CAR	The benchmark-adjusted post-IPO Cumulative Abnormal return calculated starting from the second trading year up to four years in event time
Δ Net loan	The difference of net loans in the post-IPO period (between Y (0) year and Y (+3) year) and net loans in the Y (-1) year scaled by lagged (-1) total assets
Δ Operating items	The difference between the aggregate amount of post-IPO operating RPTs (between Y (0) year and Y (+3) year) and pre-IPO operating RPTs (Y (-1) year), scaled by lagged (-1) total assets
DAC	The asset-scaled Discretionary accruals, calculated by using modified Jones (1991) model, after industry adjustment in Y (-1) year
Size	The normal logarithm of total assets at the end of the IPO year
Age	The difference between the establishment year and the IPO year
Δ Capital expenditure	The average decline in capital expenditure from Y (-1) year to the post-IPO years (between Y (0) year and Y (+3) year), scaled by lagged (-1) total assets
Δ Government subsidy	The average decline in Government subsidy from Y (-1) year to the post-IPO years (between Y (0) year and Y (+3) year), scaled by lagged (-1) total assets
Ownership concentration	The proportion of ownership held by the controlling shareholder at the end of the IPO year
Ownership type	The type of the controlling shareholder, which is a dummy variable taking the value of 1 if the controlling shareholder is ultimately owned by the state at the end of the year; 0 otherwise
Board Composition	The proportion of directors representing the controlling shareholder in the board at the end of the IPO year.