SHARE TYPES AND EARNINGS MANAGEMENT: EVIDENCE FROM CHINESE LISTED COMPANIES

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Abstract

This study contributes to the literature on the ownership structure by investigating the effect of special share types on the practice of earnings management in China. Equity ownership in listed Chinese companies have five different types: state-owned shares, legal person shares, employee shares, A-shares, and B- & H-shares, which is a phenomenon unique to the Chinese equity market. Empirical analysis shows that different share types and mixed ownership structure significantly affects the company's earnings management. Using a sample of 544 listed Chinese company-years, this study finds that the state-owned shares and legal person shares are positively associated with earnings management. However, the proportion of B- & H-shares is not related to earnings management. In addition, empirical results also show evidence in support of a positive relationship between the proportion of A-shares and earnings management. These findings indicate that transferral of more state-owned shares and legal person shares to the public can mitigate earnings management. However, because currently in China shares are still largely owned by the state or legal persons, the magnitude of earnings management may be maintained at a high level. In addition, due to tradable A-shares has a positive relation with earnings management, holding a large proportion of A-shares still cannot effectively constrain earnings manipulation, which suggests that China's ownership structure reform may not be highly successful as China Securities Regulatory Commission (CSRC) expected. In achieving a better corporate governance practice, further structure reform is essential.

Keywords: Share types; Earnings management; Ownership structure; SOEs reform

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1. Introduction

A unique feature of ownership structure in Chinese listed companies is that many of them have five different types of equity shares: state-owned shares, legal person shares, employee shares, A-shares, and shares available to foreign investors. Based on the separation of ownership from control literature (Blair 1995), Chinese different share types are expected to associate with earnings management. Although the literature on the relationship between Chinese special share types and management incentives is relatively unexplored, evidence suggests that there are some indirectly linkages between ownership structure and managerial incentives. Ding et al. (2007) using Chinese data find that ownership structure has a non-linear impact on reducing earnings management. Firth et al. (2007) show that concentrated ownership structure has implications for the level of information asymmetry between managers and investors which influences the quality of earnings and managers' accounting choices. Considering the mixed ownership structure is a unique phenomenon of Chinese listed companies, this study intends to examine whether various classes of shares have an association with earnings management and in what manner they are related to earnings management.

The motivation of this study is drawn by the implicit assertion of the China Securities Regulatory Commission (CSRC) that earnings management can be mitigated through the ownership structure reform of state-owned enterprises (SOEs). From the beginning of 1980s, China started the economic reform by privatisation of SOEs' ownership and transferral of its economy from planned economy to market economy. According to the plan, small and medium size SOEs are gradually merged or privatized, while large SOEs are restructured to incorporated companies, and among these large SOEs, some are selected to be listed on Chinese stock exchanges. CSRC believes that these strategic arrangements can assist the restructured SOEs to separate their management from state ownership control and to further improve corporate governance mechanisms. However, this unique reformational approach has been admitted to benefit the setting up of modern enterprise system, whereas its effectiveness on improving the capability of

monitoring the quality of reported earnings is in doubt and need to be further investigated.

Different share classes have the same claim and voting power, while their holders differ in terms of motivation, expertise and ability in monitoring companies' management. The state, as the shareholder, can have conflict interests with their agents. For example, in order to meet requirements of the state, state representatives may collude with companies' managers by misstatement of reported earnings. Legal persons, on the other side, have stronger incentives to maximise returns. However, they are partly controlled by the Chinese government and thereby may not be able to monitor the management independently as Western countries. Domestic A-shares holders usually are considered in a negative position in involving the governance process. Compared with other shareholders, each A-share holder averagely holds a small proportion (less than 0.5%) of total shares outstanding. Therefore, it is difficult for these dispersive minority stockholders to perceive and constrain earnings management activities. B- & H-shares holders are considered to be the most intolerance shareholders in misstatement of reported earnings. They are not only well equipped by investment knowledge but also highly cautious in making their investment decisions. Accordingly, they may play a monitoring role on mitigating earnings manipulation. In general, various Chinese shareholders might not have the same response to manager's opportunistic behaviour. As a result, this study argues that shareholders' reaction on such behaviour should be reflected through their shareholding type and proportion of shares they hold. The relationship between different share types and earnings management is therefore investigated.

This study selects sample companies that were transformed from SOEs and listed on Shanghai Stock Exchange from 2004 to 2007. Using a 544 company-year sample, this study investigates whether different types of shares, in particular state-owned shares, legal person shares, A-shares, and B- & H-shares, have an association with discretionary accruals (proxy of earnings management). This study finds that the proportion of state-owned shares and legal person shares has a positive relation with discretionary accruals. However, this study obtains little evidence to support that B- & H-shares have a significant association with discretionary accruals. In addition, empirical results show evidence in support of a positive relation between the fraction of A-shares and discretionary accruals. These findings indicate that after the SOEs' reform and listing on the stock market, earnings management activates can be mitigated by exhibiting different classes of shares in general. Nonetheless, in China, because shares are still largely owned by the state or legal persons, where these shares are not transferred to the public, the magnitude of earnings managements may be maintained at a high level. Moreover, as tradable A-shares are positively associated with earnings management, higher proportion of A-shares indicates a higher level of earnings management, which implies that privatisation and institutional reform of SOEs might not be highly effective as CSRC expected. In order to improve corporate governance practices and the quality of earnings reported by the Chinese listed companies, further ownership structure reform is substantial.

The paper is organized as follows. Section 2 illustrates the Chinese institutional background. Section 3 reviews the existing literature and develops research hypotheses. Section 4 describes the method applied to measure earnings management and designs the research model. Section 5 shows the sample and data. Section 6 outlines empirical results. Section 7 concludes the paper.

2. Institutional Background

2.1 China's capital market and SOEs reform

The first Chinese stock company appeared in 1984 (Ellman, 1988), but formal trading of shares did not start until early 1990s. After the establishment of Shanghai Stock Exchange (SHSE) in December 1990 and Shenzhen Stock Exchange (SZSE) in April 1991, the equity and shareholding system became a significant vehicle for ownership structure reform of SOEs (Xu & Wang, 1999). The CSRC was established in 1992 as the Chinese equivalent of the U.S. Securities and Exchanges Commission (SEC) to monitor and regulate the capital market. Since then, the Chinese securities market developed rapidly with the total number of listed companies increased from 183 in 1993 to nearly 1600 in 2007. Table 1 shows the market capitalization and the number of companies listed on SHSE and SZSE over the period 2004 to 2007. Market capitalization was about 3,675,529 million Yuan in 2004 and reached 62,714,088 million Yuan in 2007, an increase of almost 17 times within four years. In the same period, the number of listed companies has increased from 1373 to 1530.

Insert Table 1 about here

SOEs were previously owned by the state and managed by various industrial departments of the central government or local governments. Before the enterprise reform in 1984, as all production and management decisions were made by governments, SOEs were operated as cost centres only (Gao, 1996). In the absence of market competition, the operation of most SOEs maintained at high costs and low productivity (Sun & Tong, 2003). The overall performance of SOEs had dropped significantly since the national economy was unified in 1960s. Chinese government has identified the problem and realised that such poor performance might attribute to the ownership structure, which gives rise to severe agency problems. On the one hand, managers were

nominated and controlled by the state and only compensated by the government's salaries. Their personal interests were tied loosely to the company's performance. As the reward scheme was rarely taken place, it is unlikely that managers had enough incentives to act their best interests on behalf of SOEs. On the other hand, the government was not able to establish effective monitoring system and incentive mechanism to encourage their managers to act on the government's interests. Consequently, the government had 'lost' the essential control of their managers. Due to these twofold agency problems, Chinese government gradually restructured SOEs' ownership formation, which included going public, in order to strengthen the ability of monitoring managers' behaviour and more importantly to improve SOEs' performance.

2.2 Share types in China

According to China Company Law (2005) 6 the shares of Chinese listed companies can be classified as non-tradable and tradable shares. Non-tradable shares cannot be traded on the security markets, which include state-owned shares, legal person shares, and employee shares. While tradable shares, including A-shares, B-shares, and H-shares, can be traded on the securities market.

State-owned shares are solely held by the central government, local governments or another SOE. At the end of 1990s the central government declared that the ultimate owner of state-owned shares is the State Council. State-owned shares cannot be traded but are transferrable upon CSRC's approval. Legal person shares are owned by domestic institutions, including shareholding companies, non-bank financial institutions and SOEs that have at least one non-state owner. Like state-owned shares, legal person shares cannot be traded and are transferable only upon CSRC's approval. Employee shares, a unique feature of the Chinese shareholding system, differ from an employee share plan in Australia. They are collectively owned by employees of a company including workers and managers, usually purchased at a substantial discount (Xu & Wang, 1999) and represented accumulated profits retained by these workers and managers under the Contract Responsibility System (Qi et al., 2000). Employee shares are not tradable at the time of listing and are managed by either an investment management committee or a labour union (Xu & Wang, 1999). Because most listed companies do not have employee shares and they typically account for a small fraction of total shares outstanding, this study excludes employee shares from the investigation.

A-shares are held and traded most by individuals, although some are now being held by institutional investors (e.g. insurance companies and investment funds). There is no restriction on the number of shares traded and the minimum holding period. The Company Law (2005), however, requires that total A-shares of a company account for no less than 25% of total outstanding shares when a company makes its initial public offering (IPO). A-shares are the only type of shares can be traded by domestic investors at the two stock exchanges. B-shares are available to foreign investors and some authorized domestic securities companies. Recently, individuals in China have been allowed to trade B-shares if they can access to foreign currencies. The market for B-shares is separated from the A-shares market. They are denominated in U.S. dollars on the SHSE and in Hong Kong dollars on the SZSE. Only about one-eighth of the listed companies which can meet the more stringent requirements have issued B-shares. H-shares are similar to B-shares in nature except that they are listed and traded on the Hong Kong Stock Exchange (HKSE). The issuing of H-shares has increased in recent years because the Chinese government encourages transformed SOEs to list on developed stock markets (Xu & Wang, 1999).

Table 2 represents the ownership structure of the sampling Chinese companies in SHSE from 2004 to 2007. It can be found that typical Chinese listed companies have a mixed ownership structure. The state, legal persons and domestic individual investors are the dominant groups of shareholders which hold 83.93% of total shares outstanding on average. As shown in the table 2, most of listed companies do not have employee shares, and even if they do, those shares on average account for less than 0.1% of total shares outstanding. B- & H-shares represent 15.88% of total shares on average which indicates that foreign investors are the minority group in Chinese listed companies. The proportion of total non-tradable shares decreased from 65.8% in 2004 to 54.66% in 2007 as CSRC intends to transfer more state-owned shares to the public. Although domestic listing of A- and B-shares is slightly decreased, the total number of tradable shares is increased from 34.2% to 37.49%. This implies that the overseas listing is growing rapidly. As shown in table 2, the proportion of H-shares has almost tripled within only 4 years which increased from 7.22% to 26.89%. The overall changes of the sampling shareholding structure indicate the fact that although the proportion of tradable shares has increased, about two thirds of shares are still largely controlled by the state or Chinese legal persons. Listed companies in China still exhibit a concentrated shareholding structure.

Insert Table 2 about here

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[6] The Company Law of the People's Republic of China, Zhong hua ren min gong he guo gong si fa, adopted by the Eighteenth Session of the Standing Committee of the Tenth National People's Congress, 27 October 2005, effective 1 January 2006.

3. Earnings Management Literature and Hypotheses Development

There exists a substantial literature on whether and how ownership structure affects earnings or earnings management where most of them are limited to studies based on developed economies. Early study by Grossman and Hart (1980) have investigated that if a company's ownership is widely dispersed, no shareholder has adequate incentives to monitor the management closely because the existing benefit is too small to cover the monitoring costs. However, Shleifer & Vishny (1986, 1997) find that if the ownership is concentrated, it may enhance corporate earnings performance because controlling shareholders, in a position to harvest a substantial portion of the gains from an improvement in the firm's performance or a takeover, have an incentive to monitor the manager's behaviour. Nevertheless, they also report that when controlling shareholders hold a large portion of shares (e.g. 95% of total outstanding shares) and can effectively control the company, they might collude with managers to manage earnings at the expense of minority shareholders.

Following Shleifer and Vishny's study, Fan and Wong (2002) further confirms that the degree of ownership concentration can affect the nature of contracts and create different agency problems between managers and various groups of shareholders. They suggest that the major agency problem may shift away from manager-shareholder conflicts to conflicts between the controlling owner and minority shareholders. Because the shareholding structure of Chinese listed companies is also concentrated, Ding et al. (2007) argue that the relationship between Chinese shareholding concentration and earnings management exhibits a non-linear, inverted U-shape pattern. They also suggest that privately-owned companies tend to maximise accounting earnings more than state-owned companies. In brief, these previous studies have shown some evidence that earnings management is associated with various groups of shareholders especially in the circumstance that companies' ownership structure is highly concentrated. Considering that the state, legal persons and domestic individual investors are the China's dominant groups of shareholders, this study expects that these groups of shareholders might influence earnings management activities in Chinese context.

Many Chinese listed companies are transformed from SOEs which were previously owned by the state. After the IPO of SOEs, shareholder's rights of the state are managed by either local offices of the Bureau of State Assets Management (BSAM) of the central government or the finance bureaus of local governments (Qi et al., 2000). This transformation does not change the status that the state as the owner dominates the listed SOEs. Generally, the state relies on control over the board to influence managers' decisions and to protect its own interests (Gao, 1996). However, this institutional setting creates some agency problems which may not improve the effectiveness of monitoring role by the state as a shareholder.

Local BSAM and finance bureau officials who are appointed to hold the state-owned shares do not have sufficient incentives and skills to monitor management behaviour. On the one hand, although they represent the right of the substantial stockholder of a listed company, these Chinese officials are reluctant to involve in the supervision process without any benefit, because their compensation is paid by government which is not linked to the performance of the listed companies. On the other hand, most of local BSAM and finance bureau officials have a very limited knowledge of financial techniques and investment practices but these are fundamental to oversee the management especially in the circumstance that the public officials stand for the block holders. Chinese managers, therefore, may utilize their professional knowledge to adjust the reported earnings without any perceiving. Consequently, it is difficult for these government officials to detect if managers manipulate the earnings. In addition, as the de facto controller, these representatives may have conflict interests with the state that they represent, which give rise to certain agency problems. State representatives are more likely to collude with companies' managers to manipulate the reported earnings in order to meet the state requirements. In that way, both of them can not only enjoy the benefit of a large stream of cheap direct state investments but also avoid the investigation conducted by the state. Ding et al. (2007) has found that the opportunistic earnings management activities are more serious in state-controlled listed companies than in private-controlled listed companies. One reason they argued is that Chinese managers, with the helping hand of the government officials are largely insulated against pressure from the true owners. Because transforming from SOEs to public companies may give rise to agency problems and cannot effectively constrain the earnings management, this study expects that earnings management is positively affected by the level of state ownership. The first hypothesis is then developed:

H1: The proportion of shares held by the state (state-owned shares) is positively associated with earnings management.

Legal persons are commercial entities who usually have independent accounting systems and are separated from the government departments. In general, legal persons have been considered to have a stronger motivation to maximise profit. Qi et al. (2000) find that legal person shareholders in China can help improve the company performance, especially when they are dominant stockholders.

However, no other than that legal persons are charged with making profits, some of them may have incentives to assist managers to overstate the reported earnings. Chen et al. (2006) has argued that legal person shareholders may collude with managers to engage in unlawful practices in order to maximise profit, whereas their motivation in monitoring managers is relatively weak. Firth et al. (2007) also show that legal persons as the dominant shareholders are related to a lower quality of reported earnings. In addition, the institutional settings of Chinese legal persons also trigger the difficulty of governing earnings management. Legal person shareholders are a heterogeneous group of investors comprising mainly corporatized SOEs, partially privatized shareholding companies, and state-owned non-bank financial institutions. It is the fact that many Chinese legal persons are partially owned by the state and are often considered as business agencies or enterprises of the state that help starting up the public companies either by giving permission to operate or by providing public resources (Tenev & Zhang, 2002; Tian, 2000). Thus, in China, a unique phenomenon is that legal persons are largely controlled by the state. As the agencies of the state, as well as the shareholders of the listed companies, Chinese legal persons are lack of independence in monitoring companies' managers and their interests would not inconsistent with the state. Thus, this study formulates the following second hypothesis:

H2: The proportion of shares held by the legal person (legal person shares) is positively associated with earnings management.

The majority of A-shares holders are Chinese individuals. They have been considered in a disadvantageous position in the business operation and decision making, especially in participating in the governance process. Xu and Wang (1999) have reported that almost no individual investors can be a member on the board of directors or on the supervisory board in Chinese listed companies. They also find that A-shares shareholders' participation in the shareholder annual conference is low. Therefore, Chinese A-shares holders have little abilities to oversee the operations of Chinese listed companies. In addition, most individual investors hold A-shares only for short-term speculative gains instead of long-term investment intentions. This unique phenomenon has been verified by the extremely high turnover rates. In 2004, the turnover rate for A-share market is 308%, while it is almost 1000% in 2007 (The Fact Book of Shanghai Stock Exchange 2005, 2008). Xu and Wang (1999) also show that the average A-shares holding period in China is only one or two months, whereas it is eighteen months in the U.S. Such a short investment time horizon makes individual investors lack of intentions to monitor the management closely and gives rise to the classic free-rider problem (Xu & Wang 1999; Qi et al., 2000). Thus, A-shares holders are considered to have little incentives to monitor earnings quality. Since the A-share holders have limited capability and incentives to oversee the management, this study assumes that they should positively affect earnings management activities. Accordingly, the following third hypothesis is developed:

H3: The proportion of shares held by the individual investor (A-shares) is positively associated with earnings management.

B- & H-shares investors are predominantly foreign individual and institutional investors who have stronger incentives to boost returns of their investments. However, foreign shareholders are facing various risks to invest in Chinese listed companies such as lack of participation in corporate governance, regulation differences and culture diversities. Therefore, they are more prudential and alert in investment decisions compared to domestic investors. Unlike domestic individual investors whose investment opportunities are restricted by domestic stock market, foreign investors can also choose their stock portfolio on the international developed stock market. Foreign investors' demand is more elastic than that of domestic investors (Gordon & Li, 2003). Therefore, they are less tolerant with earnings manipulation and willing to invest in the companies with high quality of earnings. In addition, the cost of manipulating earnings is potential high for companies issuing B- & H- shares. Chinese listed companies which issue B- or H-shares are regulated not only by Chinese mainland accounting rules but also by Hong Kong accounting standards or other overseas accounting regulations.[7] These companies must report earnings according to more rigid accounting standards (e.g. International Financial Reporting Standards) than Chinese domestic rules. Their financial statements are required to be audited by internationally recognized accounting firms (e.g. Big 4). For avoiding the punishment by overseas regulators and maintaining higher investment credibility, those companies are less likely to conduct opportunistic accounting practices and usually adopt more conservative accounting policies when preparing their financial statements. Because B- & H-shares holders are intolerant with opportunistic earnings practices and companies issuing B- & H-shares are fear of punishment by overseas regulations, this study accordingly develops the following fourth hypothesis:

H4: The proportion of shares held by the foreign investor (B- & H-shares) is negatively associated with earnings management.

[7] Hong Kong adopts International Financial Reporting Standards since 2005.

4. Measurement of discretionary accruals and the Model

4.1 Measurement of discretionary accruals

The proxy for earnings management in this study is discretionary accruals. Manipulation of accruals is a popular instrument for opportunistic earnings management because it generally has no direct cash flow consequences and is difficult to detect (Peasnell et al., 2005). There is a large body of literature using accruals to measure earning management (e.g. Firth et al., 2007; Klein, 2002; Kothari et al., 2001; Park & Shin, 2004; Xie et al., 2003). Companies may have some other ways to manipulate earnings, such as cutting back on staff training, reducing expenses on advertising or selling idle equipment whereas these alternative approaches are costly and have negative effects on companies' future cash flows (Peasnell et al., 2005). According to previous studies, this study assumes that in Chinese context, manipulation of accounting accruals is likely to be the first choice for opportunistic earnings management, prior to managers looking at more costly approaches.

This study estimates discretionary accruals using the modified-Jones model. Several models have been proposed in the literature for calculating the discretionary accruals. The most frequently used models are the Jones (1991) model and the modified-Jones model (Dechow et al., 1995). Dechow et al. (1995) present evidence that the modified-Jones model is more powerful at detecting sales-based earnings management than the Jones model. Because the total accounting accruals are assumed to be the sum of both non-discretionary and discretionary components, in order to get the discretionary accruals, this study firstly follows the modified-Jones model to estimate the non-discretionary component (equation (1) and (2)). Specifically, the modified-Jones model coefficients are estimated using the following OLS regression:

$$\frac{TA_{ik,t}}{A_{ik,t-1}} = \beta_{0k,t}\frac{1}{A_{ik,t-1}} + \beta_{1k,t}\frac{\Delta REV_{ik,t}}{A_{ik,t-1}} + \beta_{2k,t}\frac{PPE_{ik,t}}{A_{ik,t-1}} + e_{ik,t} \quad (1)$$

where $TA_{ik,t}$ is total accruals for company i in industry k in the year t, $A_{ik,t-1}$ is total assets in the year t-1, $\Delta REV_{ik,t}$ is the change in revenue, $PPE_{ik,t}$ is the gross value of property, plant and equipment. $\beta_{0k,t}$, $\beta_{1k,t}$, and $\beta_{2k,t}$ are regression coefficients, and $e_{ik,t}$ (assumed i.i.d.) is the regression residual.[8]

Then non-discretionary accruals (NDA) can be calculated as follows:

$$NDA_{ik,t} = \hat{\beta}_{0k,t}\frac{1}{A_{ik,t-1}} + \hat{\beta}_{1k,t}\frac{\Delta REV_{ik,t} - \Delta REC_{ik,t}}{A_{ik,t-1}} + \hat{\beta}_{2k,t}\frac{PPE_{ik,t}}{A_{ik,t-1}} \quad (2)$$

where $\hat{\beta}_{0k,t}$, $\hat{\beta}_{1k,t}$, and $\hat{\beta}_{2k,t}$ are OLS regression estimates of $\beta_{0k,t}$, $\beta_{1k,t}$, and $\beta_{2k,t}$ respectively, obtained from equation (1), and $\Delta REC_{ik,t}$ is the change in receivables. Adjusting $\Delta REC_{ik,t}$ by $\Delta REV_{ik,t}$ is designed to eliminate the conjecture tendency of the Jones Model to measure discretionary accruals with error when managers exercise discretion in manipulating earnings through revenue recognition (Dechow et al., 1995).

Finally, the remaining portion of the total accruals can be obtained as the discretionary accruals (DA):

$$DA_{ik,t} = \frac{TA_{ik,t}}{A_{ik,t-1}} - NDA_{ik,t} \quad (3)$$

[8] Industries are classified according to the ANZSIC codes (Australia codification roughly similar to the U.S. SIC one).

Since the analysis does not depend on the direction of the accruals but on the magnitude of the accruals, this study therefore uses absolute value of discretionary accruals as the proxy for the combined effect of income-increasing and income-decreasing earnings management. Other studies using this measure are Bartov et al. (2000), Becker et al. (1998), Firth et al. (2007), Klein (2002), and Warfield et al. (1995).

4.2 The model

The cross-sectional pooled regression method is employed to test the associations between different share types and earnings management. The dependent variable is the discretionary accruals which have been calculated by equation (3). The model which is adopted to test the hypotheses H1 to H4 is as follows:

$$DA_{i,t} = \alpha_0 + \delta_1 STATE_{i,t} + \delta_2 LP_{i,t} + \delta_3 ASHARE_{i,t} + \delta_4 BSHARE_{i,t} + \delta_5 HSHARE_{i,t} + \gamma_1 LSIZE_{i,t} + \gamma_2 LEVERAGE_{i,t} + u_{i,t} \quad (4)$$

where STATE represents the proportion of shares held by the state. Holding other explainable variable effects constant, this study predicts that δ_1 will be positive due to inefficiency of the state as an owner in monitoring the earnings management. LP denotes the proportion of shares held by Chinese legal persons. Because shares held by legal persons might not difference compared with that they are held by state, this study predicts that δ_2 will be positive. ASHARE stands for the proportion of A-shares which are held by domestic individual investors. As individual investors who hold a small proportion of total shares have either less capability or little incentive to monitor management behaviour, this study therefore predicts that δ_3 will be positive. BSHARE is the proportion of B-shares and HSHARE is the proportion of H-shares. Note that companies issuing B- and/or H-shares are more conservative and fear of punishment by overseas regulators, they possibly maintain lower level of earnings management. Therefore, δ_4 and δ_5 should be negatively correlated with discretionary accruals.

As examining the association between share types and earnings management, it is necessary to allow for other factors that may also influence earnings management. Consistent with previous literature (e.g. Firth et al, 2007; Klein, 2002; Park & Shin 2004), this study uses the leverage ratio (LEVERAGE) and the natural logarithm of the net sales (LSIZE) to control for the influence of capital structure and company size respectively. The intensity of conflicted interests between debtors and shareholders increases when financial leverage rises. Generally, the higher the leverage ratio, the greater the risk that some of debt covenants might be breached and the higher cost of debt financing. Similarly, in China, as debt increases, listed companies may tend to adjust earnings upwards in order to avoid debt-covenant violation and an increase in financing cost. This study then expects that a positive relation should be observed between discretionary accruals and leverage ratio. China's larger companies are usually followed actively by the external capital markets. Therefore, larger listed Chinese companies are less likely to be able to hide discretionary accruals than smaller companies. Accordingly, this study expects that the company size has a negative association with discretionary accruals.

5. Sample and Data

The sample period covers from 1 January, 2004 to 1 January, 2008. Share types information, ownership data and other financial data are collected from annual reports issued by Chinese listed companies. The primary sample used in this study consists of 160 Chinese companies listed on the SHSE. The minimum number of observations for any given industry-year combination is 8. There are total 120 Chinese domestic companies listing on HKSE, 52 of them also simultaneously issue A-shares on the SHSE. In order to maximise sample size, this study includes all of the 52 listed companies as the sample. Similarly, in the SHSE, only 54 companies have issued B-shares during the sample period and all of them are included in this study. Finally, the remaining 54 samples are random selected from companies listed on SHSE. After deleting companies whose accounting data is unavailable, and those who are operating in finance sectors, the actual sample used in the study is 136.9 Table 3 summarizes how the sample is constructed.

Insert Table 3 about here

Table 4 presents the ownership structure of the sample companies at the end of 2007 by industries. The proportion of state ownership is highest in the mining industry (80.22%) and lowest in the communication services industry (1.54%), while the proportion of legal person shares is the opposite. This has shown that most resources companies are directly controlled by Chinese government even they are listed on the stock market. Chinese legal persons dominate communication services. However, because

[9] In line with other literature (e.g. Firth et al., 2007; Klein, 2002; Park & Shin 2004; Peasnell et al., 2005) this study excludes companies in the finance sector because they have fundamentally different accruals processes that are not captured by the modified-Jones model.

legal persons are themselves partially owned by the state, the telecommunication companies are still indirectly controlled by the state. Companies in the wholesale and retail trade industry issued the most shares to domestic individual investors (43.52%); those in the mining industry issued the least (2.3%). This implies that in China, listed retail companies have the most dispersed ownership structure. They usually are financed from domestic individual investors rather than the state, legal persons, or foreign investors. The social work industry (16.5%) and transport and storage industry (24.67%) are found to be the two largest groups raising capital from foreign investors. This indicates that many listed companies in those two sectors are likely governed not only by domestic accounting rules but also by overseas regulations.

Insert Table 4 about here

Table 5 reports descriptive statistics of the sample companies. Of the 640 company-years initially targeted, this study obtains 544 usable observations. Panel A shows descriptive statistics of the dependent variable. Discretionary accruals range from -2.1912 to 0.9505 with a median of 0.0062. The average discretionary accrual is 0.0057. Testing for whether the mean discretionary accrual is different from zero outputs a p-value of 0.3109 and a sign test yields 54% of discretionary accruals are positive. This indicates that there is no evidence showing that earnings management activities have a systematically increasing or decreasing trend. This result reflects that the selected sample is a relatively random sample with respect to earnings management incentives. Because of this quality, using the absolute value of discretionary accruals as the proxy of earnings management is appropriate, which is also supported by other studies (e.g. Bartov et al., 2000; Becker et al., 1998; Firth et al., 2007). Panel B reports descriptive statistics of independent variables. It can be seen that state-owned shares, legal person shares, and A-shares are accounting for 21.79%, 30.1%, and 29.01% respectively. It further verifies that the state, legal persons and individual investors are the dominant groups of shareholders in Chinese listed companies. B-shares and H-shares on average consist less than 10% of total shares outstanding. This indicates that overseas investors still share small proportion of Chinese stock market even though in the recent years many domestic companies have listed on HKSE.

Insert Table 5 about here

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6. Empirical results

6.1 Multivariate models

A number of research hypotheses have been developed for testing the association between share types and earnings management. The testing results are reported in table 6 for non-tradable shares and table 7 for tradable shares.

Insert Table 6 about here

Column (i) and (iii) of table 6 present the results for hypothesis H1. The estimated coefficients on STATE are positively related to the discretionary accruals at the 5% and 1% level, respectively. These findings are consistent with the hypothesis, which confirm that companies with more state-owned shares maintain a relatively high level of earnings management. It can be seen that even reforming the SOEs, agency problems might still exist between the state and their representatives and/ or between representatives and managers. As discussed above, due to these agency problems, manipulating earnings becomes a popular instrument by the management to make up their performance and meet shareholders' requirements.

To examine the association between the proportion of legal person shares and earnings management, this study also regresses two models and the empirical results are reported in column (ii) and (iii) of table 6. Consistent with hypothesis H2, the estimated coefficients on LP are statistically positive and significant at the 10% and 1% level. These empirical results indicate that in China the extent of earnings management is higher in a listed company with more legal person shares. These results also confirm that Chinese legal person shareholders are not very different from state shareholders. In certain extent, legal persons are indirectly owned and controlled by the state. Sun et al., (2002) in examining the effect of ownership structure on companies' performance also argues that the state-owned shareholders and legal person shareholders essentially have the same tendency. It can be seen that no matter non-tradable shares are held by state or by legal persons, companies issuing more these types of shares have a higher possibility to maintain a higher level of earnings management and the quality of their reported earnings should be lower.

Insert Table 7 about here

Hypothesis H3 states a positive association between the proportion of A-shares and earnings management. Column (i) and (iv) of table 7 reports the empirical results for this hypothesis. As predicted, the estimated coefficients on ASHARE are positively correlated to the discretionary accruals at the 10% and 5% level, respectively. These results confirm that Chinese listed companies issuing more shares to Chinese domestic individual investors would increase the possibility of manipulating reported earnings. It is possible, because Chinese domestic investors rarely involve in the corporate governance process, managers can utilize this limitation to opportunistically represent companies' reported earnings. As in an inefficient governance system, it is

unlikely that these managers can be detected when they manipulate earnings. Therefore, managing earnings turn into a favourite method adopting by Chinese managers. This finding is consistent with several previous studies (e.g. Ding et al., 2007; Qi et al., 2000; Wong et al., 2004; Xu & Wang, 1999).

The impact of other two types of tradable shares is described in hypothesis H4 which predicts that both of them are negatively associated with earnings management. Columns (ii), (iii) and (iv) of table 7 show the results. The estimated coefficients on BSHARE and HSHARE are both negative but not statistically significant. These results have not completely support the hypothesis and indicate that foreign investors may not constrain companies to conduct opportunistic accounting practices. These findings further demonstrate that in China even foreign investors have the ability and intention to oversee the accounting information, due to the small proportion of shares they hold, they cannot effectively intervene in company's reporting procedure. Furthermore, although Chinese listed companies issuing foreign shares are regulated by more rigid accounting standards, they are not substantially influenced by overseas listing status. Chinese domestic accounting standards and company laws still play the dominant role in regulating earnings reporting process. This is also consistent with Firth et al.'s (2007) findings which have argued that Chinese listed companies with B- or H-shares do not have impact on the quality of reported earnings.

Both table 6 and table 7 has reported the results for control variables. The overall sign of control variables are consistent with the prediction. The coefficients on company size are negative and significant ($p < 1\%$) in all the regressions, consistent with the notion that larger Chinese companies are more closely scrutinized than smaller companies. However, the coefficients on capital structures are significant in column (i) of table 6 ($p < 10\%$) and column (ii), (iii) and (iv) of table 7 ($p < 10\%$), indicating Chinese companies tend to increase their earnings when they face a high debt-to-equity ratio but due to the lenders' monitoring, the intensity has been controlled.

6.2 Additional tests

To check the robustness of the results, this study conducts two sensitivity tests. In particular, this study uses NONTRADABLE and TRADABLE as the experimental variables to test the effect of non-tradable shares (the state-owned shares and legal person shares) and tradable shares (A-, B- & H-shares) on earnings management. This study argues that the state-owned shareholders and legal person shareholders would not be different in governing the earnings reporting process and therefore, their joint effects on earnings management should be consistent with the results shown in table 6. Similarly, for total tradable shares, due to A-shares are the dominant group their collective effects on earnings management should be positive and significant, too. Table 8 provides the estimated coefficients and p-values for the additional tests. The empirical results with specification are almost identical to those reported in the table 6 and table 7. The proportion of total non-tradable shares are positively related to earnings management which confirms that maintaining a large proportion of non-tradable shares would lead to a high level of earnings management and transferring more shares to the share market is essential. However, total tradable shares are positively associated with earnings management. This empirical result implies that simplified transferring more shares to the A-share market cannot fully achieve the goal of effectively mitigating earnings manipulation, while transferring (or issuing) more shares to the B- & H-share market seems to be significant. Briefly, empirical results of additional test are robust and further confirm that in China more extensive ownership structure reform is fundamental.

Insert Table 8 about here

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7. Conclusion

As Chinese listed companies have unique ownership structure, this study developed four hypotheses to analysis whether different classes of shares can affect earnings management. In particular, this paper examines whether the state-owned shares, legal person shares, A-shares, and B- & H-shares are related to earnings management. Empirical tests use data in the annual report of Chinese listed companies from 2004 to 2007. Discretionary accruals are considered in absolute value as the proxy for the magnitude of earnings management. This study finds that earnings management are positively associated with the proportion of the state-owned shares and legal person shares. In addition, the proportion of A-shares is found to be associated with higher level of earnings management. Although the proportion of B- & H-shares has negative effect on earnings management, the influence is not significant.

These findings make several contributions to the ownership structure reform in Chinese corporate governance system. Firstly, this study conducts analysis on a sample of large, publicly traded Chinese companies with unique ownership structure that is remarkable different with those of Western countries. Therefore, the empirical results can be used as evidence to provide suggestions to Chinese regulatory body on aspects of curing agency problems between shareholders and managers. Secondly, this paper contributes to the literature on discussions of the relationship between ownership structure and earnings management. With more state-owned shares and legal person shares, companies are found to maintain a higher level of earnings management. Therefore, for mitigating earnings

manipulation, Chinese listed companies are suggested to transfer more shares to the stock market. Nevertheless, this study also finds that more A-shares can increase the level of earnings management. Accordingly, reforming corporate governance structure is becoming critical and complex. Only relaying on change of ownership structure is insufficient to achieve a great improvement in governance practice. Finally, these findings have several policy implications. CSRC can adopt more rigid accounting standards and governance mechanisms to oversee mangers' opportunistic accounting practices. The government, on the other hand, can allow more foreign investors enter into Chinese stock market because those investors has been found that they are more experienced in monitoring and reporting process.

Caution is needed as interpreting the results. First, the Chinese context is perhaps unique, and this may have caused factors found to be significant in other settings to be insignificant in this test. This uniqueness implies that the findings may not apply to other countries, even for ones at similar stages of economic development. Second, it is suggested that there might be endogenuity of ownership in transition economies. That is institutional owners can buy shares in better performing companies and leave all poorly performing ones in the hands of the government. This study argues that this is not likely in China, because the government has the control over which company is to be listed and how many shares remain in the hands. In China, legal persons have less power to select companies than the government. Nonetheless, this issue must be tested in future studies. Third, this study chooses a clean and perhaps well-structured ownership group of companies as the sample. Thus sampling procedure suffers unavoidably sample selection bias. Therefore, the results might apply only to large and former state-owned corporations.

In order to improve the understanding of earnings management in Chinese listed companies, future researchers may expand this study to explore more theoretical aspects, as well as refining the existing research methodology from statistical perspectives. For example, this study excluded the financial sector from the analysis given that other studies have found that its earnings management differs substantially from other sectors. Hence, further studies could focus on the financial sector to examine who monitors earnings management and how well they do so. Additionally, further research could extend this study by examining the association between earnings management and Chinese managerial ownership. At present, managers in Chinese listed companies are allowed to receive shares or options as a form of compensation which is not permitted before. Thus, examining whether managerial ownership of Chinese listed companies can affect earnings management is a valuable research topic.

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Appendices

Table 1. Market capitalization and number of listed companies

		2004	2005	2006	2007
Panel A: Market capitalization (million Yuan)					
		3675529	3219021	8890946	62714088
SHSE	A-shares	2571407	2285607	7111795	56849727
	B-shares	30 027	24 006	49 443	134160
SZSE	A-shares	1059527	895447	1699601	5609046
	B-shares	44595	37967	79550	121155
Panel B: Number of listed companies					
		1373	1377	1421	1530
SHSE	Companies with A-share	827	824	832	850
	Companies with B-share	54	54	54	54
SZSE	Companies with A-share	522	531	566	657
	Companies with B-share	56	55	55	55

Note: Panel A shows the total market capitalization of A-shares and B-shares and Panel B presents the number of listed companies on the SHSE and SZSE.
Source: Data in this table were obtained from the Fact Book of Shanghai Stock Exchange 2005, 2006, 2007, 2008 and the Fact Book of Shenzhen Stock Exchange 2007.

Table 2. Ownership structure (percentage) in Shanghai Stock Exchange

Share type	2004	2005	2006	2007	Average
Total non-tradable	65.8	64.02	64.89	54.66	62.34
State-owned shares	52.81	50.85	36.12	37.85	44.41
Legal person shares	12.9	13.13	28.75	16.8	17.9
Employee shares	0.09	0.04	0.02	0.01	0.04
Total tradable	34.2	35.98	35.11	44.67	37.49
A-shares	25	26.95	17.33	17.18	21.62
B-shares	1.98	1.91	0.9	0.6	1.35
H-shares	7.22	7.12	16.88	26.89	14.53

Note: This table represents the average ownership for five different types of investors across 136 listed companies on the SHSE.

Table 3. Sample used in analyses

	Company	Observations
Initial sample for 2004-2007	160	640
Insufficient industry-year sample	(9)	(36)
Banking companies	(8)	(32)
Insurance companies	(3)	(12)
Missing financial reports	(4)	(16)
Final sample	136	544

Table 4. Ownership structure of sample companies by industry

	No.	STATE	LP	ASHARE	BSHARE	HSHARE
Communication services	8	1.54%	61.52%	36.69%	0.00%	0.00%
Construction	12	43.26%	18.78%	18.50%	3.20%	12.17%
Electricity, gas & water supply	9	35.12%	22.66%	18.21%	2.74%	16.38%
Manufacturing	63	28.03%	24.66%	25.94%	6.15%	14.93%
Mining	14	80.22%	1.45%	2.30%	0.07%	14.80%
Transport and storage	13	35.45%	22.12%	15.29%	2.25%	24.67%
Social work	9	15.23%	38.72%	29.55%	16.50%	0.00%
Wholesale and retail trade	8	28.06%	19.26%	43.52%	7.53%	0.00%

Notes: Industries are classified according to the ANZSIC codes; STATE is the proportion of state-owned shares; LP is the proportion of legal person shares; ASHARE is the proportion of A-shares; BSHARE is the proportion of B-shares; HSHARE is the proportion of H-shares.

Table 5. Descriptive statistics on the sample companies

	Min	Max	Median	Mean	Std.dev.
Panel A: Dependent variable					
Discretionary accruals (DA)	-2.1912	0.9505	0.0062	0.0057	0.1402
Abs (DA)	0.0001	2.1912	0.0389	0.0672	0.1223
Panel B: Independent variables					
STATE	0	1	0.0384	0.2179	0.2586
LP	0	0.8375	0.3181	0.3010	0.2543
ASHARE	0	1	0.2967	0.2901	0.2030
BSHARE	0	0.5434	0	0.0976	0.1667
HSHARE	0	0.5007	0	0.0699	0.1317
LSIZE	5.3350	8.9565	6.5808	6.6316	0.6192
LEVERAGE	0.0337	6.7004	0.5183	0.5280	0.3245

Notes: Abs is the absolute value; STATE is the proportion of state-owned shares; LP is the proportion of legal person shares; ASHARE is the proportion of A-shares; BSHARE is the proportion of B-shares; HSHARE is the proportion of H-shares. LSIZE is the natural logarithm of the net sales; LEVERAGE is the leverage ratio.

Table 6. Pooled regression analysis of absolute values of discretionary accruals (DA) on non-tradable shares

		(i)	(ii)	(iii)
Variable	Expected sign	Coefficient (P-value)	Coefficient (P-value)	Coefficient (P-value)
STATE	+	0.0159 (0.0364)**		0.01248 (0.00)***
LP	+		0.0412 (0.065)*	0.0136 (0.00)***
LSIZE	-	-0.0137 (0.00)***	-0.0309 (0.002)***	-0.0318 (0.00)***
LEVERAGE	+	0.0169 (0.0807)*	0.0173 (0.2493)	0.0175 (0.2493)
INTERCEPT		0.2665 (0.00)***	0.2618 (0.00)***	0.2622 (0.00)***

Notes: The pooled sample provides 544 observations, representing 136 Chinese listed companies; The White Cross-section or Cross- section SUR (PCSE) method is used to correct cross section heteroskedasticity and correlated period effect; * Significant at a level of 10%; ** Significant at a level of 5%; *** Significant at a level of 1%.

Table 7. Pooled regression analysis of absolute values of discretionary accruals (DA) on tradable shares

Variable	Expected sign	(i) Coefficient (P-value)	(ii) Coefficient (P-value)	(iii) Coefficient (P-value)	(iv) Coefficient (P-value)
ASHARE	+	0.0106 (0.073)*			0.0649 (0.0414)**
BSHARE	-		-0.0007 (0.9697)		0.06243 (0.5637)
HSHARE	-			-0.0213 (0.4208)	-0.2498 (0.2431)
LSIZE	-	-0.0287 (0.00)***	-0.0312 (0.00)***	-0.0332 (0.00)***	-0.0327 (0.00)***
LEVERAGE	+	0.0186 (0.274)	0.017 (0.0903)*	0.0176 (0.10)*	0.0174 (0.098)*
INTERCEPT		0.2447 (0.00)***	0.265 (0.00)***	0.2769 (0.00)***	0.27 (0.00)***

Notes: The pooled sample provides 544 observations, representing 136 Chinese listed companies; The White Cross-section or Cross- section SUR (PCSE) method is used to correct cross section heteroskedasticity and correlated period effect; * Significant at a level of 10%; ** Significant at a level of 5%; *** Significant at a level of 1%.

Table 8. Estimate coefficients and p-values for additional models

Variable	Expected sign	(i) Coefficient (P-value)	(ii) Coefficient (P-value)
NONTRADABLE	+	0.0131 (0.0756)*	
TRADABLE	+		0.0329 (0.085)*
LSIZE	-	-0.0319 (0.00)***	-0.0283 (0.00)***
LEVERAGE	+	0.0174 (0.2822)	0.0182(0.0743)*
INTERCEPT		0.263(0.00)***	0.2303(0.00)***

Notes: The pooled sample provides 544 observations, representing 136 Chinese listed companies; The White Cross-section or Cross- section SUR (PCSE) method is used to correct cross section heteroskedasticity and correlated period effect; * Significant at a level of 10%; ** Significant at a level of 5%; *** Significant at a level of 1%. NONTRDABLE is the proportion of state-owned shares and legal person shares; TRADABLE is the proportion of A-shares, B-shares and H-shares.