Mutual funds and the listed firms' earnings management in China

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This version: 27-10-2011

Abstract: This study uses distinguished mutual funds' ownership to investigate how different types of mutual funds affect listed firms' earnings management in China. Our empirical evidence shows that, in general, mutual funds would decrease the level of listed firms' earnings management. The association between mutual funds' ownership and corporate earnings management is mainly driven by the long-term mutual funds, as the long-term mutual funds count for around 70% of total mutual funds in China. The transient mutual funds are likely to encourage listed firms to manipulate the discretionary accruals upwards, though the magnitude is small. This study also confirms the importance of the classification of institutional investors when examining the impact of institutions on corporate earnings management and other events.

Key words: Mutual fund, institutional investor, earnings management, China

JEL Codes: G29, G39

1. Introduction

Previous studies have examined the impact of institutional investors on the listed firms' earnings management activities in developed nations, but the results are mixed. Some argue that the institutional investors are transient investors who are overly focused on short-term earnings and encourage short-term managerial behavior (e.g., Froot, Perold and Setin, 1992; Porter, 1992). In contrast, others argue that the institutional investors are sophisticated investors who are less likely to be fooled by earnings management and can inhibit the listed firms' managers from using discretionary accounting accruals opportunistically (e.g., Chung, Firth and Kim, 2002).

Recent studies related to the institutional investors have classified the institutional investors into different groups according to their past investment behaviors, and then, examined the effect of different types of the institutional investors in US (e.g., Bushee, 1998, 2001; Koh, 2007). Bushee (2001) reports that the short-term focused institutional investors exhibit a preference for near-term earnings instead of long-term earnings. Furthermore, Koh (2007) finds that the short-term-focused institutional investors can increase the listed firms' earnings management when the firms manage earnings to meet or beat earnings benchmarks in the US. Whereas, the long-term focused institutional investors can significantly restrict the listed firm's earnings management in the US.

Due to the poor corporate governance of the Chinese listed firms, it is easier for mutual funds and other institutional investors to align with the managers of the firms to reach some inside arrangements. The alignment between institutions and the firms (or the firms' management) has been widely criticized in China. However, the empirical evidence in this field is rare. A few studies empirically report the strategic alignments between the institutional investors and the listed firms during the non-tradable shares reform. For example, Fu and Tan (2008) and Qiu and Yao (2008) find that the institutional investors, like the mutual funds, agree with less compensation to tradable shareholders in the non-tradable share reform, in order to gain inside information from the listed firms or financially gain from other ways such as influencing the firm's strategy. Therefore, it is interesting to empirically investigate how the institutions, like mutual funds, influence the listed firms' corporate behavior (e.g., earnings management) in China. Would the mutual funds increase or decrease the corporate earnings management in China? Do short-term focused funds or long-term focused ones affect the corporate earnings management in China the same way? So far, a few studies have worked on the relationship between the institutional investors and the corporate earnings management in China (e.g., Huang, 2009; Bo and Wu, 2009), but none of them has considered the classification of the mutual funds and study the relation between the different types of mutual funds and the corporate earnings management.

By adapting Bushee (2001)'s methodology to the characteristics of Chinese mutual funds, this study classifies the Chinese mutual funds according to their past investment behavior. This study then associates the classified mutual funds' ownership to various measures of the listed firms' earnings management activities. The empirical evidence of this study shows that, in general, the mutual funds would lower the level of the listed

firms' earnings management in China. The association between the mutual funds' ownership and the listed firms' earnings management is mainly driven by the long-term mutual funds, as almost 70% of the mutual funds are long-term focused in China. Consistent with the findings regarding the impact of the short-term institutions on the listed firms' earnings management in US (e.g., Bushee, 2001; Koh, 2007), this study finds that the short-term mutual funds would increase the listed firms' earnings management activities through a "hidden" way in China. However, the good thing is that only 31. 27% of the mutual funds are transient mutual funds in China, and the magnitude of the impact of the transient mutual funds on the corporate discretionary accruals is very small. This study provides thoughtful details of the relation between different types of mutual funds and the corporate earnings management in China, which is unknown to current literature. Besides, this study also contributes to the literature on the way that the listed firms manage the earnings in China, by using different earnings management measures.

Finally, the empirical findings of this study show that the ownership of the state shareholders and the largest shareholders are negatively associated with the level of the earnings management, as the listed firms controlled by the state can get more financial support from the government when facing financial risk. Moreover, the state shareholders (especially the central government and its agencies) may concern more about the transparency and volatility of the stock markets. This study also finds that the managerial shareholdings are positively associated with the earnings management. The incentives of the managers to manipulate the earnings would be due to the concern of the job tenure and compensations, which has been reported in the US by

many studies. In addition, this study finds that the outside directors are not likely to restrict the listed firms' earnings management in China, which suggests that the role of the independent directors is not effective.

The remainder of this paper is organized as follows: Section Two reviews the related literature. Section Three measures the mutual fund's ownership, develops the main hypotheses and discusses the data and variables. Section Four presents the empirical evidence and discussion. Section Five provides the conclusion and suggestions.

2. Literature review

2.1 Earnings management in US and China

Previous studies relating to the earnings management activities in the US argue that earnings management activities by managers are related to executive compensation and job tenure (e.g., Fudenberg and Tirole, 1995; Cheng and Warfield, 2005; Bergstresser and Philippon, 2006; Chi and Gupta, 2009). Besides the concern about compensation and job tenure, the managers of the listed firms tend to make particular accounting choice before specific corporate events in which reported earnings play an important role. For instance, Teoh, Welch and Wong (1998) find that the listed firms' managers manipulate the discretionary accruals before the seasoned equity offerings. Furthermore, Chung, Firth and Kim (2002) suggest that earnings manipulation is widely used in labor union wage negotiations, valuation of IPOs, takeovers, management buyouts and debt covenants.

Some studies suggest that the earnings management activities primarily occur before the specific corporate events (e.g., IPO, facing the risk of being de-listed, rights issue, etc.) in China. Aharony, Lee and Wong (2000) and Kao, Wu and Yang (2009) report that the listed firms usually manage the earnings before the IPO in order to attract the investors and raise more funds in China. Chinese IPO firms that report better pricing-period accounting performance tend to have a larger decline in post-IPO profitability, lower first-day stock returns and worse post-IPO stock performance, which indicates a serious earnings management before IPO (Kao, Wu and Yang, 2009). One of another motive of the companies for earnings management, after listing on the stock exchanges, is to avoid being de-listed in China. According to the regulations of the Chinese Securities Regulatory Commission (CSRC), if a listed company reports a net loss for continuously two years, it will be designated a title of "ST" (Special Treatment). If the company reports a net loss for continuously three years, it will be designated a title of "*ST", which indicates a warning of being de-listed. If the "*ST" firm can not make a positive net profit, it would be de-listed from the stock exchanges. The listed companies are valuable resources for capital-raising for not only the shareholders, but also the government. Therefore, the controlling shareholders are reluctant to see the companies being de-listed from the stock exchanges, and would have strong incentives to manipulate the earnings when the companies facing the risk of being de-listed. According to the empirical findings of Liu and Lu (2007), those listed companies, which face the risk of being de-listed

but escape from it, engage in more serious earnings management than their counterparts facing the same risk but fail to save themselves. Therefore, the listed companies could manage the reported profits upwards to prevent themselves from being de-listed (Liu and Lu, 2007). Rights issue is another corporate event that brings out the earnings management in China. Chen and Yuan (2004) find that the Chinese listed firms tend to manage earnings to meet regulatory requirements on return on equity (ROE) for rights issues[2] and firms perform relatively poor after the rights issues. Similarly, Yu, Du and Sun (2006) find the distributions of firm's ROEs are significantly non-smooth at rights issues thresholds, and argue that the earnings management activities commonly exist in Chinese stock market in order to meet the requirements for rights issue.

2.2 Institutional investors and the earnings management

Researchers argue that institutional investors are capable of improving the listed firms' corporate governance, and serve a monitoring role in mitigating the agency problem between the shareholders and the managers in the US (Shleifer and Vishny, 1986; Guercio and Hawkins, 1999; Gillan and Starks, 2000; Hartzell and Starks, 2000). There is also some literature regarding the impact of the institutional investors on the listed firms in China. Yuan, Xiao and Zou (2008) argue that the mutual funds can mitigate such free-rider problems[3] in China, and the mutual funds' ownership can

[2] In different times, the CSRC set the right issue threshold as either 6% or 10% in either each of the three previous years or for the average of the three previous years.

[3] The individual investors cannot exert influence on corporate decisions, as their shareholdings are too small and dispersed. The individual investors may have to free-ride when the blockholders make the corporate decisions.

impact on listed firms' performance in a positive manner. Hou and Ye (2008) and Ye, Li and Ding (2009) argue that the ownership of the institutional investors can improve the quality of listed firms' information disclosure and increase the market efficiency. Liu and Hua (2009) report that the institutional investor activism can constrain the tunneling behaviors[4] of controlling shareholders in non-state owned listed firms, but have insignificant impact on firms owned by the government.

However, the literature about the impact of the institutional investors on the listed firms' earnings management is mixed. Some suggest that institutional investors are transient owners who are overly focused on short-term earnings and encourage short-term managerial behavior (e.g., Froot, Perold and Setin, 1992; Porter, 1992). On the other hand, Chung, Firth and Kim (2002) argue that the institutional investors can restrict the earnings management behaviors of the listed firms' managers. As mentioned earlier, recent studies relating to the institutional investors have classified institutional investors into different groups based on the institutions' past investment behavior. Koh (2007) examines the relation between different types of the institutional investors and firms' earnings management in the US. He reports that long-term focused (dedicated and quasi-index) institutional investors constrain accruals management. Short-term focused (transient) institutional ownership can increase the listed firms' earnings management only among firms that manage earnings to meet or beat the earnings benchmarks.

[4] They use other receivables to proxy the amount of funds occupied by controlling shareholders.

There are a few studies that examine the relationship between the institutional ownership and the listed firms' earnings management activities in China. Huang (2009) reports that the institutional investors tend to oversee the accounting behaviors of managers and restrain the earnings management activities when they hold more than 6% of total shares because the selling would be fairly costly. However, since on average only a small proportion of Chinese listed firms' shares are tradable till present, it would be relatively hard for the institutional investors to hold more than 6% of any listed firm' total number of shares. Bo and Wu (2009) find that the institutional investor ownership can significantly reduce the earnings management activities in non-state owned firms. Existing literature so far has not concerned the holding period and trading strategies of institutional investors in China. According to the studies on the US institutional investors, the institutions with different investment goals and trading strategies would impact on the listed companies in different ways. Thus, different from existing literature, this study focuses on the mutual funds and investigates how different types of the mutual funds impact on the listed companies' earnings management activities in China.

3. Research design

3.1 Sample selection

The CSRC enacted the "Regulation of information disclosure of security investment fund" on 1st July 2004. The regulation requires security investment fund to announce

the quarterly, semi-annual and annual reports publicly (Act 5, Section 2). The mutual funds in China start to disclose the details of their portfolio since the third quarter of 2004. Thus, the sample period of this research is from September 2004 to December 2009. The sample contains the mutual fund's top-ten largest ownership in stocks at the end of each quarter during the sample period[5]

The sample selected must satisfy the following restrictions:

(a) A firm must have shares been held by any mutual fund at the end of the third quarter during the period from 2004 to 2009 in the sample set described above.

(b) A firm must not be a financial company (e.g., banks, insurance companies, and investment trusts), as the financial firms usually have different capital structure, and their financial statements are different from others.

(c) A firm-year observation should not have missing data.

The above criteria yielded a usable sample of 1628 observations, representing 652 listed firms during the sample period from 2004 to 2009. The data used in this study is collected from China Center for Economic Research database (CCERDATA) and China Stock Market Accounting Research database (CSMAR).

[5] The sample only contains mutual fund's top-ten largest ownership in stocks at the end of each quarter during the sample period, not the data on entire ownership due to the limitation of our data. However, the mutual fund's ownership besides its top-ten largest ownership in stocks is extremely small. The average of the tenth largest mutual fund's quarterly ownership in its portfolio firm is only 0.037%, whereas the average of the largest mutual fund's quarterly ownership in its portfolio firm is 1.151%. Thus, we believe that the lack of entire data would not significantly bias the mutual fund classification. Nonetheless, future studies could categorize the institutions in China based on the complete institutional ownership in the listed firms if the data becomes available.

3.2 Mutual fund's ownership

This study classifies the China's mutual funds into three sub-groups according to the mutual funds' past investment behavior. The methodology[6] employed to classify the mutual funds was firstly used by Bushee (2001), but our methodology is adapted according to the characteristics of the mutual funds in China in this study. Chinese mutual funds are only permitted to invest in the listed firms' tradable shares. In order to give a clearer picture of the mutual funds' classification, this study uses both the mutual funds' total shareholdings[7] and tradable shareholdings[8] to classify the mutual funds in China. At the beginning, this methodology uses eight variables to describe the mutual funds' trading behavior and portfolio characteristics. A factor analysis is then used to identify three common factors from the variables: the factor of the block size of the mutual funds' investment in the listed firms (factor 1), the factor of the holding period of the mutual funds' shareholdings in the listed firms (factor 2), and the factor of mutual fund's portfolio turnover (factor 3). Finally, a *k*-mean cluster analysis is employed to categorize the mutual funds into three sub-groups: dedicated mutual funds, transient mutual funds and quasi-index mutual funds based on the mutual funds' factor scores. The results of the mutual fund classification are shown in Table 1. Transient mutual funds have low factor1 score (low investment concentration), low factor2 (short holding period) score and high factor3 score (high portfolio turnover); dedicated mutual funds should have high factor1 score (high

[6] For the details of this methodology, please see Bushee (2001) and Yang, Chi and Young (2010).

[7] It equals to the number of shares held by the mutual funds over the total number of the listed firm's shares.

[8] It equals to the number of shares held by the mutual funds over the number of the listed firm's tradable shares.

investment concentration), high factor2 score (long holding period) and low factor3 score (low portfolio turnover); and quasi-index mutual funds should have low factor1 score (low investment concentration), high factor2 (long holding period) score and low factor3 score (low portfolio turnover).

(Insert Table 1 here)

The mutual fund classification 1, which classifies the mutual funds based on the listed firm's total number of shares, shows that the dominant mutual funds in Chinese equity market are transient funds (71.76%), followed by the quasi-index funds (19.6%). Only 2.04% of all the mutual funds are classified as the dedicated funds by the mutual fund classification 1. However, the mutual fund classification 2, which classifies the mutual funds based on the number of the listed firm's tradable shares, shows that the dominant mutual funds are quasi-indexers (58.58%), followed by the transient funds (31.27%), while the dedicated funds only increases noticeably from 2.04% to 3.38%. Besides, the results on factor2 score in classification 2 shows that although the dedicated mutual funds do not hold the portfolio firms as long as the quasi-indexers, they hold the firms longer than the transient funds, which makes more sense. We believe that the mutual fund classification 2 would yield more accurate results than the mutual fund classification 1, since Chinese mutual funds are only allowed to invest in tradable shares. That is why we focus on the results in the classification 2 from now on.

3.3 Hypothesis development

After classifying the mutual funds, this study further associates the distinguished mutual funds' ownership to the listed firms' earnings management activities in China. Some studies argue that the dedicated institutions play a more important role in corporate oversight and may reduce the listed firm's myopic behavior, like cutting the R&D investment in the US (e.g., Porter, 1992; Bushee, 1998). According to the mutual fund classification 2, there are only a small number of dedicated mutual funds in China, and the dedicated mutual funds generally hold the shares of the listed firms for a shorter period than the quasi-index mutual funds. However, both the dedicated and quasi-index mutual funds hold more stable portfolios (have longer holding periods and less frequent trading) than the transient mutual funds in China. Therefore, we group the dedicated and quasi-index mutual funds together as the long-term institutional investors in this study. Bushee (2001) argues that, unlike the short-term (transient) institutional investors who overly focus on the near-term corporate accounting earnings, the long-term institutional investors set their sights on the dividend income and capital appreciation. Consistent with this view, the long-term institutional investors may not encourage the listed firms to manipulate the earnings, as the earnings manipulation would harm the benefits of the listed firms, as well as the institutional investors in the long run. Koh (2007) also finds that the long-term institutional investors (including both the dedicated and quasi-index institutions) can restrict the listed firms' accruals management in the US. Therefore, in conjunction with the long-term institutional investors having both incentive and capability of overseeing the listed firms' financial reporting in the US, this study expects:

H1: Long-term focused mutual funds' ownership is negatively associated with the listed firms' earnings management activities in China.

The transient institutional investors prefer to hold small size of stake in their portfolio firms and trade frequently. Because of the small investment size, the transient institutional investors would usually bear lower transaction costs when selling the shares of the portfolio firms. The transient institutional investors prefer current earnings to long-term earnings and are likely to sell the shares of the portfolio firms whose current earnings are under-performing (Porter, 1992; Bushee, 1998, 2001, Koh, 2007). Bushee (1998) reports that the transient institutional investors would increase the possibility that the listed firms' managers reduce the R&D to reverse an earnings decline. Bushee (2001) also finds that the transient institutions exhibit strong preferences for near-term over long-term earnings, and their preference would induce significant stock misvaluations. Thus, the transient institutions' near-term earnings preference may provide themselves with the earnings management incentives. Matsumoto (2002) argues that the listed firms with higher transient institutional ownership are more likely to manipulate the earnings. Koh (2007) reports that transient institutional ownership is systematically associated with aggressive earnings management among the firms that manage earnings to meet/beat the earnings benchmarks. Considering the Chinese mutual funds have been reported as involving

in the illegal operations[9] and aligning with the listed firms to take the advantage of the individual investors (e.g., Ping and Li, 2000; Fu and Tan, 2008; Qiu and Yao, 2009), the transient mutual funds would have strong motives to encourage their portfolio firms to manipulate the earnings in order to make abnormal short-term earnings in China. Hence, consistent with the findings on the transient institutional investors in the US and the characteristics of Chinese mutual funds, we predict:

H2: Transient mutual funds' ownership is positively associated with the listed firms' earnings management activities in China.

3.4 Variables and the model

3.4.1 Dependent variables

In order to estimate listed firms' earnings management accurately, this study employs three different variables to proxy the earnings management activities by the Chinese listed firms. There are NCI, DACC and PDACC.

1) Non-core income scaled by total assets (NCI)

Chen and Yuan (2004) and Yu, Du and Sun (2006) report the earnings management is mainly reflected in non-core[10] income in China. Chen and Yuan (2004) argue that the non-core income is a convenient means of earnings management for listed firms in

[9] The illegal operations include inside trading between mutual funds from the same fund management company in order to increase the trading volume and attract potential buyers, and disclosing misleading information, etc.

[10] It is also called as non-operating income.

China because the majority of shares in most listed firms are held by state-owned enterprises (SOEs) that are not listed. Therefore, it is relatively easy to arrange a non-core transaction between a listed firm and its parent to create a non-core income (Chen and Yuan, 2004).

NCI is defined as following:

Non-core income[11]= Total income–Operating income (1)

NCI = Non-core income/Total assets (2)

As the non-core income of the listed firms from different industries may vary from each other, this study adjusts the NCI for industry effect by subtracting the industry mean of the NCI from the sample firms. The industries are measured by CSRC industry code[12].

However, non-core income may not completely capture the listed firm's earnings management activities in China. While Ding, Zhang and Zhang (2007) argue that the listed firms mainly use related party transactions to adjust the earnings and classify the profits and losses as the non-core items. While Jian and Wang (2004) and Ding, Zhang and Zhang (2007) suggest that it would be hard for non-state controlled listed firms using related party transactions to manipulate the earnings, as most non-state controlled listed firms are more independent (not affiliated to any groups). Haw et al.

[11] Non-core income includes investment income, income from gains, income from government subsidy, other non-operating income.

[12] There are 13 industries being identified based on the CSRC industry code.

(2005) suggest that the listed firms adopt both non-core income and discretionary accruals to manipulate the earnings in China. Chen and Yuan (2004) report that Chinese regulator's ability to identify the listed firms that use non-core income to manage the earnings has been improved over time. Furthermore, Haw et al. (2005) argue that, as a mean of earnings management, the discretionary accruals are less apparent than the non-core income, and hence, are hard to be detected by the regulators.

2) Discretionary accruals ($DACC_{i,t}$, $e_{i,t}$) of the following regression：

$$\text{Total accrual}_{i,t}/\text{Total assets}_{i,t-1} = \alpha_1/\text{Total assets}_{i,t-1} + \alpha_2 \Delta\text{Rev}_{i,t}/\text{Total assets}_{i,t-1} + \alpha_3 \text{PPE}_{i,t}/\text{Total assets}_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

Total accrual ($TACC_{i,t}$) is the difference between net income and cash flows from operating activities. Net income is the difference between total profit and income tax expense. $\Delta Rev_{i,t}$ is the change in sales revenues in year t-1 for firm i, and $PPE_{i,t}$ is gross property, plant, and equipment in year t for firm i (this study uses firm's fixed assets to proxy PPE). This study uses Ordinary Least Square (OLS) to estimate the equation 3 within each industry and year. It is noteworthy that this study runs the OLS regression (equation 3) for all the non-financial listed firms during the sample period from 2005 to 2009 in China, not only for the sample firms. The equation 3, which is employed to acquire the discretionary accruals of the listed firms in China, is used by Liu and Lu (2007)[13]. This model is a modified version of Jones' (1991) model, which

[13] The earnings management studies in the US prefer to use the difference between earnings before extraordinary items and operating cash flows to measure the total accruals. However, Chinese GAAP does not require the so-called

is a commonly cited earnings management model.

3) The positive DACC ($PDACC_{i,t}$).

Many studies test for earnings management of a particular sign (income increasing or income decreasing) in a particular period (e.g., Jones, 1991; Teoh, Welch, and Wong, 1998; Koh, 2007). The managers of the listed firms face different earnings management incentives when managing earnings upward versus downward (Koh, 2007). Koh (2007, 271) notes: "When managing earnings upwards, managers are likely to utilize as much positive discretionary accruals as necessary to achieve their objectives rather than realizing all available positive discretionary accruals. In contrast, when managing earnings downwards to create accounting slack, managers are likely to maximize the negative discretionary accruals to create maximum slack for future periods." As this study pays more attention to the earnings management that aims to increase the share price, I employ positive discretionary accruals (PDACC) as the third earnings management estimator.

3.4.2 Main explanatory variables

This study employs the contemporaneous listed firms' earnings management measures and the one-quarter lagged (at the end of the third quarter of each year during the sample period) values of the mutual funds' ownership in the analysis. The

"one-time" items, such as extraordinary items and discontinued operations to be reported separately. On China's standardized income statement, profit from operations is sales revenue less cost of goods sold and operating expenses, plus profits (losses) from non-major operations; total profit includes profit from operations, gains (losses) from disposal of assets and investments, and other revenues and expenses; net income is total profit less income taxes. Thus, both "above the line" and "below the line" items in an American income statement are included in China's operating income" (Liu and Lu, 2007, P889).

lag allows for the effect of change in the mutual funds' ownership to show up in future firms' earnings management activities. As the mutual funds are only allowed to invest in the listed firms' tradable shares, this study measures the mutual fund's ownership based on the number of the listed firm's tradable shares.

The main explanatory variables are:

1) ALL. ALL stands for total mutual funds' ownership measured by the number of the listed firm's tradable shares, including all types of mutual funds' ownership[14].

2) T[15]. T stands for the short-term (transient) mutual funds' ownership measured by the number of the listed firm's tradable shares.

3) L. L stands for the long-term (including both the dedicated and quasi-index) mutual funds' ownership measured by the number of the listed firm's tradable shares.

3.4.3 Other explanatory variables

1) TOP. TOP measures the percentage of company's shares held by the largest shareholder. Concentrated ownership structure is pervasive in Chinese stock markets. Claessens, Djankov and Lang (2000) suggest that the concentrated ownership structure is the main determinant of the poor corporate governance of Asian listed firms. The controlling shareholders can easily take the advantages of the minority shareholders when there is only one ultimate firm owner. The level of the listed firms' earnings management would increase with the largest shareholders' interest in the

[14] This study does not make specific hypothesis about the relationship between ALL and the listed firms' earnings management measurements.

[15] The dedicated, quasi-index and transient mutual funds are identified by the mutual fund classification 2, which classifies the mutual funds based on the number of the listed firms' tradable shares.

firm (Liu and Lu, 2007). Thus, TOP is included to control for the interests of the controlling shareholder. I expect a positive relation between TOP and listed company's earnings management proxies.

2) MGN. MGN is the percentage of shares held by the executives including the CEO, the chairman and the vice chairman of the board of directors, and the other directors. MGN controls for the management's interests in a listed firm. Some studies argue that managerial ownership is an effective governance mechanism for improving the listed firms' performance and mitigating the controlling shareholders' tunneling activities in China although the economic significance is small (e.g., Gao and Kling, 2008). However, some others argue that, in most cases, the managers are appointed by the controlling shareholders and the managerial ownership is too small in China, so that managerial ownership is not likely to influence accounting quality in China (e.g., Firth, Fung and Rui, 2007, Liu and Lu, 2007). Thanks to the contradictory opinions about the managerial ownership, we do not have any specific expectation on MGN.

3) STATE. STATE is the state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. It is plausible that the non-state controlled listed firms would have more incentives to manipulate the earnings than the state-controlled listed firms do. State-controlled firms can get more financial support from the government, so that they do not have to manage the earnings to avoid delisting when facing the risk of being de-listed. Moreover, the state

shareholders (especially the central government and its agencies) usually have more concern on the transparency and volatility of the stock markets, and hence, are less incentivized to manipulate the earnings of the listed firms. Bo and Wu (2009) find that the level of privately controlled firms' positive discretionary accounting accruals are higher than the level of government controlled firm's positive discretionary accounting accruals. Thus, I expect a negative relationship between STATE and the listed firms' earnings management measures. In order to double check the relation between the state shareholders and the corporate earnings management, this study also includes the other variable of CTR, which stands for the type of the listed firms (i.e., state-controlled or non-state controlled). CTR is a dummy variable, takes the value of 1 if the firm is controlled by a private or foreign entity, 0 otherwise (e.g., government and state-owned enterprise). We expect a positive relation between the CTR and the corporate earnings management measures.

4) CEOD. CEOD is a binary dummy variable that measures the CEO duality of listed firms. It takes the value of one if CEO also holds the position of the chairman of the board of directors, and zero otherwise. Splitting the board chair and CEO can facilitate more effective monitoring and control of the CEO, and indicate a more independent board of directors (Rechner and Dalton, 1991; Liu and Lu, 2007). Liu and Lu (2007) argue that it is more difficult for minority shareholders to have a say on important issues when the CEO also holds the position of board chair, and the controlling shareholders would have larger discretionary power in firm's financial

reporting. Thus, I expect a positive relationship between CEOD and the earnings management estimators.

5) UD. UD measures the ratio of the number of directors not receiving any payment from the listed firms to the firms' total number of directors. Many prior studies use the independent director ratio to measure the ratio of outside directors of listed firms. As the CSRC requires listed firms to have at least one third of the board members to be independent directors[16], the ratio of independent of listed firms would be quite similar. The unpaid director ratio can better estimate the ratio of the outside directors. Fan, Lau and Young (2007) find that the outside directors have a positive effect on CEO monitoring. If outside directors can improve listed firm's corporate governance, it could also restrict the earnings management activities by the listed firms. I expect a negative relationship between UD and the firms' earnings management measurements.

6) DE. DE measures the listed firm's debt to equity ratio. Literature regarding the listed firms' earnings management in the US argues that the firms face financial distress are motivated to manage the earnings to avoid the share price depreciation from disclosing a financial problem or to prevent unnecessary technical violations of debt agreements (e.g., Park and Shin, 2004; Koh, 2007). These studies report a positive relation between the listed firms' financial leverage and earnings

[16] Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies", CSRC, 16th August 2001.

management in the US. However, Ding, Zhang and Zhang (2007) and Bo and Wu (2009) find that the listed firms' financial leverage is not significantly associated with earnings management in China. Lei and Liu (2006) find that the listed firms' financial leverage is negatively associated with earnings management in China. Lei and Liu (2006) argue that it is easier for firms with a higher debt to equity ratio (firms with relatively small equity) to manage the earnings to get a higher ROE, because ROE is the key financial ratio that determines the firms' right issue and seasoned equity offer in China. Following the literature on the earnings management in China, we expect a negative relation between DE and the earnings management measures.

7) SGR. SGR stands for the listed firms' sales growth rate. SGR is included to control for the association between firm growth/investment opportunities and the earnings management incentives. Skinner and Sloan (2002) and Koh (2007) argue that the listed firms with higher growth rate or more investment opportunities would have incentives to manage earnings to avoid earnings disappointment in the US. However, the firms with more sales revenue would be more profitable, and hence need less earnings management to adjust the financial reporting. This study does not have a specific expectation for the relation between SGR and earnings management measures.

8) ISSUE. ISSUE is a binary dummy variable. It takes the value of one if the firm issued new shares (including IPO, rights issue and seasoned equity offering) in the

previous year, zero otherwise. Previous studies suggest that the listed firms usually adjusted their earnings upwards before issuing new shares in China, as the firms eager to get a higher chance of successfully issue or a higher issuing price (e.g., Aharony, Lee and Wong, 2000; Chen and Yuan, 2004; Yu, Du and Sun, 2006; Kao, Wu and Yang, 2009). Therefore, we believe that the listed firms that issued new shares in the previous year may be less likely to manage their earnings afterwards. As such, we expect a negative relationship between ISSUE and the firm's earnings management activities.

10) SIZE. SIZE is defined as the log value of listed firm's total assets. It controls for firm's undetermined size effect.

11) Year Dummies. Year dummies are employed to control for changes in macroeconomic environment common to all listed companies over the sample period.

This study does not include any variable that controls for the listed firm's motivation to manage the earnings when facing the risk of being de-listed from the secondary markets in China. It is because that the mutual funds do not prefer to invest in the firms that face the risk of being de-listed (have consecutively losses). There are extremely few "ST" and "PT" firms in the sample of this study (only 12 out of 1623 observations are "ST" or "PT" firms). Thus, it is not applicable for this study to control for listed firm's motivation to adjust the earnings when facing the risk of being

de-listed.

3.4.4 The OLS regressions:

The Ordinary Least Square (OLS) regression is used to examine the impact of mutual funds on listed firms' earnings management activities in this study. The OLS regressions are:

$$NCI_{i,t}/DACC_{i,t}/PDACC_{i,t}=\alpha_0+\alpha_1 ALL_{i,t-1}/L_{i,t-1}/T_{i,t-1}+\alpha_2 TOP_{i,t}+\alpha_3 MGN_{i,t}+\alpha_4 STATE_{i,t}+$$

$$\alpha_5 CEOD_{i,t}+\alpha_6 UD_{i,t}+\alpha_7 DE_{i,t}+\alpha_8 SGR+\alpha_9 ISSUE+\alpha_{10} SIZE_{i,t}+ years + \varepsilon_{i,t} \quad (3)$$

4 Empirical results

4.1 The earnings management of the firms with and without large mutual funds' ownership

(Insert Table 2 here)

If mutual funds could affect the listed firms' earnings management in different ways, the listed firms with or without large mutual funds' ownership would have different level of earnings management. We first use a *t-test* and a *Wilcoxon test* to examine whether there are any differences between the level of the earnings management of the firms with and without large fund ownership. The results of the *t-test* and *Wilcoxon test,* which are reported in table 2, show that the level of the earnings management of the listed firms with and without large fund ownership is significantly different from each other. However, the results are not consistent, as the listed firms with large fund ownership have lower non-core income, but have higher discretionary

accruals. As such, the mutual funds may not affect the listed firms' non-core income and discretionary accruals in the same way.

4.2 Descriptive statistics

(Insert Table 3 here)

Table 3 provides descriptive statistics of the variables used in this study. On average, the listed firms' NCI (industry adjusted non-core income over total assets) is -0.008, although it can be as high as 0.191. The average of DACC is 0.013. PDACC is the positive value of the DACC. Only 900 observations have positive DACC, and the mean of these positive DACC is 0.087. ALL stands for total mutual funds' ownership, includes all types of mutual funds' ownership, measured by the number of the listed firms' tradable shares. T and L stand for the transient and long-term focused (dedicated and quasi-index) mutual funds' ownership, measured by the number of the listed firms' tradable shares. The average ALL, T and L are 5.87%, 2.58% and 5.09%, respectively. The average state ownership of all the listed firms in the sample is 29.05%. There are only 137 CEOD having the value of one. It indicates that the CEO does not hold the position of the chairman of the board of directors in most of the listed firms in the sample. The average UD (unpaid director) ratio is around 40%. On average, the listed firms' debt to equity ratio is around 1.3, and ranges from 0.0214 to 28.75. The average sales growth rate of the sample firms is 0.167. There are only 9.7% of the sample firms that have issued new shares in the previous year during the

sample period[17].

4.3 Pearson Correlation

(Insert Table 4 here)

Table 4 shows the Pearson Correlation. Among all the correlations between the independent variables, only the correlation between TOP and STATE is above 0.5. All the correlations between the other two independent variables are less than 0.5. Although the correlation between TOP and STATE is high (0.554), it is smaller than 0.7. As such, the correlations are not high enough to cause the multicollinearity in this study.

4.4 Multivariate results

(Insert Table 5 here)

This study employs heteroskedasticity-consistent standard error (HCSE) estimators, in our OLS regressions due to the concern of heteroskedasticity. All the p-values are based on heteroskedasticity-consistent standard errors. Table 5 reports the results of the OLS regressions that use ALL, T and L as the main independent variables. When NCI is used as the dependent variable, the coefficients of ALL, L and T are all significantly negative. It suggests that all types of mutual funds' ownership would reduce the level of the listed firms' non-core income. When DACC and PDACC are used as dependent variables, both coefficients of ALL and L become insignificant, while T is significantly and positively associated with PDACC at the 5% levels,

[17] Although seasoned equity offering is popular in China, during the sample period, due to the non-tradable share reform causing underperformance of the stock markets, the issue of new shares reduced significantly.

indicating that among different types of mutual funds' ownership, only transient mutual funds' ownership would increase the level of the listed firms' discretionary accruals. The empirical evidence indicates that the association between total mutual funds' ownership and the listed firms' earnings management activities is likely to be driven by the long-term focused mutual funds in China. This is consistent with the findings of Koh (2007) on the American markets that the long-term institutions can constrain the listed firms' earnings management activities, and the association between total institutional ownership and the earnings management is mainly driven by the long-term institutions. The way that the transient mutual funds affect the corporate earnings management (increase the discretionary accruals but decrease the non-core income) is not surprising. As mentioned earlier, the listed firms could use both non-core income and discretionary accruals to manipulate the earnings (Haw et al., 2005). The non-core income is relatively easy to be detected by the regulators (Chen and Yuan, 2004), whereas the discretionary accruals are more invisible to the regulators and investors (Haw et al., 2005). The transient mutual funds are sophisticated in financial reporting, and aim to make profits in the short run. Therefore, they may increase the listed firms' earnings management in a more "hidden" way: using income increasing discretionary accruals, instead of the non-core income. By doing so, they can attract more investors and drive up the firms' share price to make profits in the short run.

Overall, the results are consistent with the empirical findings regarding the relation

between different types of institutions and the earnings management in the US. The mutual funds, in general, would decrease the listed firms' earning management, though the mutual funds are widely criticized as aligning with the listed firms to make abnormal returns in China. The long-term focused mutual funds (including both the dedicated and quasi-index mutual funds), which are the dominant mutual funds in China, would restrict the listed firms from manipulating the earnings. The transient mutual funds are likely to encourage the listed firms to manage the earnings, but cover only around 31%[18] of total mutual funds in China. Moreover, it is worth noting that the transient funds would encourage the listed firms to manage the earnings through manipulating the discretionary accruals, rather than the non-core income.

The coefficients of TOP are either significantly negative or insignificant, which suggests the larger the top shareholdings, the lower the corporate earnings management, especially the non-core income management. Similarly, the coefficients of STATE are either significantly negative or insignificant, which is consistent with the expectation and suggests that the state-shareholders do not prefer to adjust the earnings upwards through earnings management. It is noteworthy that the majority of the largest shareholders of the listed firms would be the state or the state-owned enterprises, as more than 50% of the listed firms are ultimately controlled by the state in China (Yang, Chi and Young, 2011). Therefore, the results of the largest shareholders on the earnings management would be mainly driven by the ones of the

[18] The mutual fund classification 2 identifies that 31% of the mutual funds are transient mutual funds in China.

state shareholders. Most of the coefficients of MGN and UD are significantly positive, which indicates managerial shareholdings and outside directors could not restrict the listed firms' earnings management among the firms with large mutual funds' ownership in China. On the contrary, as previous studies hold contradictory opinions about the impact of the managerial ownership and outside/independent directors on the listed firms' corporate governance and firm performance, the results are not surprising. The coefficients of DE are significantly and positively associated with NCI, but significantly and negatively associated with DACC. The results are consistent with Lei and Liu (2006). The empirical results suggest that the listed firms with more/less debt tend to use more/less non-core income and less/more discretionary accruals to manage their earnings in China. The coefficients of SGR are either significantly negative or insignificant, which suggests the listed firms with high sales growth rate are less likely to involve in the earnings management in China. Most of the coefficients of ISSUE are not significant, which indicates that the firms are less likely to manipulate the earnings in the year after issuing new shares.

4.5 Robustness Check

4.5.1 Using the listed firm's total number of shares (including both tradable and non-tradable shares) to measure the mutual fund's ownership

(Insert Table 6 here)

Section 4.4 reports the results of the OLS regressions that use the mutual funds' ownership, which is measured by the number of the listed firms' tradable shares, as

the main independent variables. In order to give a full picture of the impact of the mutual funds' ownership on the corporate earnings management, we further employ the total number of the listed firm's shares (including both tradable and non-tradable shares) to measure the mutual funds' ownership, and re-run the OLS regressions. When measured by using the total number of the listed firm's shares, the average of the total mutual funds' ownership in a listed firms drops to 3.06%. The average of the long-term and transient mutual funds' ownership drops to 2.61% and 1.39%, respectively. Nonetheless, the results, which are reported in the table 6, are very similar to the results reported in the table 5. Further, the transient mutual funds' ownership is not only significantly and negatively associated with the PDACC, but also with the DACC at the 10% level, which confirms the argument that transient mutual funds would increase the level of the listed firms' discretionary accruals. Therefore, the empirical results of this study are robust to the mutual funds' ownership measured by both the number of the listed firm's shares and tradable shares.

4.5.2 Two stage least square

(Insert Table 7 here)

Mutual funds are more sophisticated than individual investors, and more capable of detecting the listed firms' earnings management activities. It is likely that the long-term/transient mutual funds may select the listed firms with less/more earnings management to invest in. Thus, there would be an endogeneity between the mutual

funds' ownership and the listed firms' earnings management activities. Note that this study uses one-quarter lagged values of mutual funds' ownership as the main dependent variables. However, the lagged mutual funds' ownership would not completely mitigate the potential endogeneity, as mutual funds' ownership may persist over time. As such, this study then models the potential endogeneity by using a two-stage least squares regression method. In the first stage, the listed firms' market beta coefficients (BETA)[19], is used as the instrument variable to predict the mutual funds' ownership, which is measured by using both the number of the listed firms' shares/tradable shares. The predicted mutual funds' ownership is then used in the OLS regressions of stage two. The relation between the mutual funds' ownership, which is predicted by the BETA, and the corporate earnings management would not be affected by the potential endogeneity, if there were any. Table 7 and 8 reports the results of the second stage. The results of stage two are very similar to the results reported in the tables 5 and 6. Thus, the findings on the relationship between mutual funds' ownership and listed firms' earnings management are robust to the two-stage least squares regression estimate. One noteworthy point is that the positive relation between the transient mutual funds' ownership and the corporate discretionary accruals becomes weak in the test of two stage least square. The coefficients of T are only significantly and positively at the 10% level in the regression 9 of Table 8. It suggests that the transient mutual funds may select firms with relatively high level of

[19] Among the corporate characteristics, the listed firm's market beta coefficient is less likely to be significantly associated with listed firms' earnings management behaviors. Besides, we also use a liquidity measure, which is defined as the listed firm's trading volume over the number of the firm's tradable shares, as the instrument variable in the first stage. The result remains unchanged.

discretionary accruals to invest in, since accruals management may cause short-term abnormal market returns. As such, the magnitude of the impact of the transient mutual funds on the corporate discretionary accruals could be very small.

4.5.3 Other robustness check

The empirical evidence shows that the state shareholders do not prefer a high level of earnings management. In order to double check the impact of the state shareholders on the corporate earnings management, this study uses the other variable of CTR to replace STATE, and re-runs the OLS regressions. The un-tabulated result shows that CTR is significantly and positively associated with PDACC at 5% level, which is basically consistent with the expectation and the results of STATE. The results of other variables remain unchanged when replacing STATE by CTR.

5. Conclusions and Suggestions

This study finds that, in general, mutual funds could reduce the listed firms' earnings management activities (mainly the non-core income) in China. Similarly, the long-term focused mutual funds (including both dedicated and quasi-index mutual funds) could restrict the listed firms from managing the non-core income upwards. Thus, the association between the total mutual funds' ownership and the earnings management is mainly driven by the long-term focused mutual funds in China. The impact of transient mutual funds on the listed firms' earnings management is mixed.

The empirical evidence indicates that, on one hand, the transient mutual funds could reduce the level of the listed firms' non-core income management. On the other hand, the transient mutual funds are likely to encourage the listed firms to manage earnings through adjusting the discretionary accruals upwards, though the magnitude could be very small. The impact of transient mutual funds on earnings management is understandable. Haw et al. (2005) suggest that the listed firms use both non-core income and discretionary accruals to manipulate the earnings in China. The non-core income is relatively easy to be detected by the regulators (Chen and Yuan, 2004), whereas the discretionary accruals are more invisible to the regulators and investors (Haw et al., 2005). Thus, in order to attract more potential investors and make considerable shot-term profits, the transient mutual funds are likely to encourage the listed firms to manage more discretionary accruals instead of the non-core income.

The empirical findings of this study clear the myth that the mutual funds give negative impact on the stock markets by aligning with the listed firms. Overall, the mutual funds could give positive impact on the corporate financial reporting in China. Moreover, the regulatory bodies should also watch more closely over the relation between the transient mutual funds and the listed firms, as the transient mutual funds are likely to exacerbate the listed firms' opportunistic financial reporting. Besides, this study also contributes to the literature on the ways that the listed firms manage the earnings. Although some existing studies argue that the listed firms usually manage the earnings through adjusting the non-core income in China, this study finds that the

listed firms can adjust the earnings by using the discretionary accruals rather than the non-core income. Since the discretionary accruals are hard to find out and may easily mislead the regulators and the individual investors, future research can make more contribution on how to detect the listed firms' accrual management in China.

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Table 1: Mutual fund classification

1a. Mutual fund classification 1 (Based on listed firms' total number of shares)

		Institutional Investor Groups		
Factor		Transient funds	Dedicated funds	Quasi-indexers
Factor1	Mean	-0.091	4.639	-0.136
	Std. Dev.	0.761	1.334	0.764
Factor2	Mean	-0.423	-0.461	1.597
	Std. Dev.	0.622	0.901	0.623
Factor3	Mean	0.065	-0.231	-0.214
	Std. Dev.	1.094	0.951	0.759
N		1230	35	336
Proportion		71.76%	2.04%	19.60%

The table reports the results of the mutual fund classification 1. The mutual fund classification 1 classifies the mutual funds based on the mutual funds' holdings in listed firms' shares (including both tradable and non-tradable shares). (1) Factor 1 is each type of mutual funds' factor 1 score. (2) Factor 2 is each type of mutual funds' factor 2 score. (3) Factor 3 is each type of mutual funds' factor 3 score. The score of factor1, factor2 and factor3 have been standardized. All three scores have a mean of zero and a standard deviation of one across the entire distribution of mutual funds. (4) N is number of institution-year observations. (5) Proportion is the ratio of number of institution-year observations to total number of institution-year observations. There are 115 mutual funds have not been classified by the mutual fund classification 1 (6.7% of total number of observations). It is because that these funds have not been operated for more than one year or they have missing data.

1b. Mutual fund classification 2 (Based on listed firms' tradable shares)

		Institutional Investor Groups		
Factor		Transient funds	Dedicated funds	Quasi-indexers
Factor1	Mean	-0.109	4.157	-0.182
	Std. Dev.	0.612	1.485	0.586
Factor2	Mean	-0.451	-0.07	0.245
	Std. Dev.	0.645	1.048	1.12
Factor3	Mean	1.035	-0.332	-0.533
	Std. Dev.	0.769	0.904	0.695
N		536	58	1004
Proportion		31.27%	3.38%	58.58%

This table reports the results of the mutual fund classification 2. The mutual fund classification 2 classifies the mutual funds based on the mutual funds' holdings in listed firms' tradable shares. (1) Factor 1 is each type of mutual fund's factor 1 score. (2) Factor 2 is each type of mutual fund's factor 2 score. (3) Factor 3 is each type of mutual fund's factor 3 score. The score of factor1, factor2 and factor3 have been standardized. All three scores have a mean of zero and a standard deviation of one across the entire distribution of mutual funds. (4) N is number of institution-year observations. (5) Proportion is the ratio of number of institution-year observations to total number of institution-year observations. There are 115 mutual funds have not been classified by the mutual fund classification 2 (6.7% of total number of observations). It is because that these funds have not been operated for more than one year or they have missing data.

	Listed firms with large fund ownership			Listed firms without large fund ownership			Difference		T Test of H0: the means are equal	Wilcoxon Test of H0: the medians are equal
EM	N	Mean	Median	N	Mean	Median	Mean Difference	Median Difference	*t-statistics (p-value)*	*p-value*
NCI	1623	-0.008	-0.006	6656	0.002	0.001	-0.010***	−0. 007***	8.43 *(<.0001)*	*<0. 0001*
DACC	1623	0.013	0.009	6656	-0.007	-0.001	0.020***	0. 010***	-4.06 *(<.0001)*	*<0. 0001*
PDACC	900	0.087	0.056	3277	0.080	0.048	0.007	0. 008***	-1.43 *(0.15)*	*0. 001*

(1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals.

*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).

Table 3

Variable	N	Mean	Std Dev	Minimum	Maximum
NCI	1623	-0.008	0.026	-0.147	0.191
DACC	1623	0.013	0.136	-1.089	1.794
PDACC	900	0.087	0.117	0.0001	1.794
ALL	1623	5.87%	0.072	0.01%	64.14%
T	1074	2.58%	0.031	0.004%	21.23%
L	1327	5.09%	0.061	0.003%	63.20%
TOP	1623	41.49%	0.167	0.061	0.864
MGN	1623	2.31%	0.091	0	0.736
STATE	1623	29.05%	25.95%	0	89.78%
CEOD	1623	0.084	0.277	0	1
UD	1623	0.416	0.316	0	1
DE	1623	1.298	1.428	0.021	28.746
SGR	1623	0.167	0.355	-0.875	0.922
ISSUE	1623	0.097	0.296	0	1
SIZE	1623	9.726	0.535	8.401	12.162

Table 3 reports the descriptive statistics of the variables used in this study. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALL is total mutual funds' ownership measured by the number of the listed firm's tradable shares, including all types of mutual funds' ownership. (5) T is transient mutual funds' ownership measured by the number of the listed firm's tradable shares. (6) L is long-term focused (including dedicated and quasi-index) mutual funds' ownership measured by the number of the listed firm's tradable shares. (7) TOP is the listed firm's largest shareholder's ownership. (8) MGN is the listed firm's managerial ownership. (9) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (10) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (11) UD is the ratio of the number of directors not receiving any payment from the firm to the total number of directors. (12) DE is the listed firm's debt to equity ratio. (13) SGR is sales growth rate. (14) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (15) SIZE is the log value of the listed firms' total assets.

Table 4

	NCI	DACC	ALL	TOP	MGN	STATE	CEOD	UD	DE	SGR	ISSUE	SIZE
NCI	1	0.112***	-0.113***	-0.087***	0.049**	-0.101***	0.012	0.063**	0.113***	-0.011	0.035	0.011
P-value		*<.0001*	*<.0001*	*0.0004*	*0.046*	*<.0001*	*0.622*	*0.011*	*<.0001*	*0.649*	*0.156*	*0.657*
DACC		1	0.038	-0.001	0.097***	-0.047*	0.013	0.042*	-0.088***	0.029	0.018	-0.014
P-value			*0.127*	*0.967*	*<.0001*	*0.059*	*0.615*	*0.087*	*0.0004*	*0.238*	*0.468*	*0.583*
ALL			1	-0.085***	-0.045*	-0.050**	0.001	-0.065***	-0.003	-0.001	-0.069***	0.127***
P-value				*0.001*	*0.072*	*0.042*	*0.975*	*0.009*	*0.905*	*0.984*	*0.006*	*<.0001*
TOP				1	-0.164***	0.554***	-0.045*	0.224***	-0.021	0.033	0.011	0.304***
P-value					*<.0001*	*<.0001*	*0.068*	*<.0001*	*0.405*	*0.183*	*0.666*	*<.0001*
MGN					1.000	-0.266***	0.128****	-0.182***	-0.071***	0.004	0.191***	-0.227***
P-value						*<.0001*	*<.0001*	*<.0001*	*0.004*	*0.881*	*<.0001*	*<.0001*
STATE						1	-0.152***	0.269***	0.013	0.033	-0.059**	0.251***
P-value							*<.0001*	*<.0001*	*0.615*	*0.187*	*0.018*	*<.0001*
CEOD							1	-0.133***	-0.075***	0.009	0.059**	-0.132***
P-value								*<.0001*	*0.002*	*0.721*	*0.017*	*<.0001*
UD								1	0.026	-0.014	-0.064***	0.149***
P-value									*0.293*	*0.574*	*0.010*	*<.0001*
DE									1	-0.048*	-0.026	0.261***
P-value										*0.051*	*0.304*	*<.0001*
SGR										1	0.010	-0.033
P-value											*0.700*	*0.182*
ISSUE											1	0.014
P-value												*0.569*
SIZE												1

Table 4 reports the results of the Pearson Correlation. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALL/ALLT is total mutual funds' ownership measured by the listed firm's total number of shares/tradable shares, including all types of mutual funds' ownership. (5) TOP is the listed firm's largest shareholder's ownership. (6) MGN is the listed firm's managerial ownership. (7) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (8) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (9) UD is the ratio of the number of directors not receiving any payment from the firm to the total number of directors. (10) DE is the listed firm's debt to equity ratio. (11) SGR is sales growth rate. (12) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (13) SIZE is the log value of the listed firms' total assets.

*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).

Table 5

	NCI			DACC			PDACC		
Regression	1	2	3	4	5	6	7	8	9
Intercept	-0.017	-0.021	-0.011	-0.058	-0.083	-0.067	-0.045	-0.094	-0.205
P-value	*0.234*	*0.209*	*0.463*	*0.602*	*0.519*	*0.631*	*0.810*	*0.667*	*0.380*
ALL	-0.049***			0.009			0.031		
P-value	*0.0003*			*0.859*			*0.489*		
L		-0.036*			-0.010			-0.017	
P-value		*0.058*			*0.857*			*0.742*	
T			-0.137***			0.117			0.397**
P-value			*<.0001*			*0.540*			*0.016*
TOP	-0.011**	-0.015***	-0.018***	0.003	-0.015	-0.040	-0.026	-0.034	-0.069**
P-value	*0.024*	*0.003*	*0.003*	*0.897*	*0.541*	*0.138*	*0.337*	*0.268*	*0.030*
MGN	0.012**	0.016**	0.008	0.155***	0.147***	0.114**	0.106***	0.084**	0.111**
P-value	*0.022*	*0.020*	*0.218*	*<.0001*	*0.0003*	*0.024*	*0.005*	*0.041*	*0.039*
STATE	-0.002	-0.004	-0.009**	-0.020**	-0.025	-0.033	-0.047	-0.046	-0.078*
P-value	*0.491*	*0.379*	*0.033*	*0.012*	*0.301*	*0.233*	*0.127*	*0.201*	*0.061*
CEOD	0.002	0.002	0.0002	0.001	0.013	-0.006	-0.003	0.002	-0.006
P-value	*0.308*	*0.395*	*0.930*	*0.946*	*0.238*	*0.676*	*0.732*	*0.860*	*0.602*
UD	0.008***	0.009***	0.008***	0.027**	0.028**	0.043***	0.021	0.023	0.031**
P-value	*0.001*	*0.001*	*0.0002*	*0.022*	*0.041*	*0.004*	*0.108*	*0.136*	*0.048*
DE	0.002***	0.002***	0.002***	-0.009***	-0.010**	-0.008**	-0.003	-0.004	-0.004
P-value	*0.0003*	*0.0004*	*0.002*	*0.007*	*0.011*	*0.040*	*0.245*	*0.142*	*0.221*
SGR	-0.007**	-0.005*	-0.017***	-0.035	-0.012	-0.086*	-0.027	0.001	-0.065
P-value	*0.045*	*0.085*	*0.004*	*0.127*	*0.398*	*0.058*	*0.307*	*0.945*	*0.314*
ISSUE	0.003	0.005*	-0.0003	0.001	-0.002	0.017	0.003	0.001	0.014
P-value	*0.141*	*0.074*	*0.879*	*0.892*	*0.888*	*0.228*	*0.818*	*0.940*	*0.375*
SIZE	0.001	0.001	0.0005	0.008	0.012	0.010	0.016	0.022	0.033
P-value	*0.601*	*0.531*	*0.762*	*0.487*	*0.380*	*0.498*	*0.399*	*0.325*	*0.188*
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-square	6.77%	6.07%	9.66%	2.81%	3.02%	3.18%	6.64%	6.86%	9.03%
Adj. R-square	5.89%	5.00%	8.38%	1.90%	1.91%	1.80%	5.05%	4.94%	6.70%
No. of Obs.	1623	1074	1327	1623	1074	1327	900	601	742

Table 6 reports the results of the OLS regressions. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALL is total mutual funds' ownership measured by the listed firm's number of tradable shares, including all types of mutual funds' ownership. (5) L is long-term focused (including dedicated and quasi-index) mutual funds' ownership measured by the listed firm's number of tradable shares. (6) T is transient mutual funds' ownership measured by the listed firm's number of tradable shares. (7) TOP is the listed firm's largest shareholder's ownership. (8) MGN is the listed firm's managerial ownership. (9) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (10) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (11) UD is the ratio of the number of directors not receiving any payment from the firm to the total number of directors. (12) DE is the listed firm's debt to equity

ratio. (13) SGR is sales growth rate. (14) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (15) SIZE is the log value of the listed firms' total assets.

*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).

Table 6

	NCI			DACC			PDACC		
Regression	1	2	3	4	5	6	7	8	9
Intercept	-0.017	-0.010	-0.021	-0.048	-0.072	-0.078	-0.042	-0.203	-0.095
P-value	*0.242*	*0.500*	*0.200*	*0.664*	*0.603*	*0.541*	*0.821*	*0.387*	*0.662*
ALL1	-0.097***			0.137			0.086		
P-value	*<.0001*			*0.113*			*0.347*		
L1		-0.082***			0.073			-0.048	
P-value		*0.007*			*0.484*			*0.655*	
T1			-0.244***			0.562*			0.801**
P-value			*<.0001*			*0.097*			*0.020*
TOP	-0.015***	-0.024***	-0.018***	0.006	-0.032	-0.014	-0.022	-0.051*	-0.035
P-value	*0.003*	*0.0002*	*0.001*	*0.772*	*0.221*	*0.572*	*0.387*	*0.090*	*0.241*
MGN	0.010*	0.005	0.015**	0.157***	0.120**	0.147***	0.108***	0.120**	0.084**
P-value	*0.054*	*0.458*	*0.031*	*<.0001*	*0.018*	*0.0003*	*0.004*	*0.025*	*0.042*
STATE	-0.004	-0.011***	-0.005	-0.019**	-0.031**	-0.025**	-0.046	-0.070	-0.046
P-value	*0.233*	*0.009*	*0.181*	*0.015*	*0.038*	*0.021*	*0.187*	*0.193*	*0.180*
CEOD	0.002	-0.0001	0.002	0.001	-0.007	0.013	-0.003	-0.005	0.002
P-value	*0.376*	*0.958*	*0.427*	*0.956*	*0.641*	*0.245*	*0.746*	*0.644*	*0.868*
UD	0.007***	0.008***	0.009***	0.028**	0.045***	0.029**	0.022*	0.032**	0.023
P-value	*0.001*	*0.003*	*0.001*	*0.017*	*0.003*	*0.038*	*0.099*	*0.039*	*0.137*
DE	0.002***	0.002***	0.002***	-0.009***	-0.008**	-0.009**	-0.003	-0.004	-0.004
P-value	*0.0004*	*0.003*	*0.001*	*0.007*	*0.041*	*0.011*	*0.253*	*0.253*	*0.136*
SGR	-0.007*	-0.005	-0.017***	-0.036	-0.012	-0.087*	-0.027	0.0002	-0.065
P-value	*0.050*	*0.106*	*0.004*	*0.121*	*0.392*	*0.056*	*0.307*	*0.992*	*0.316*
ISSUE	0.003	-0.0005	0.005*	0.002	0.018	-0.001	0.003	0.015	0.001
P-value	*0.147*	*0.785*	*0.079*	*0.822*	*0.201*	*0.932*	*0.799*	*0.343*	*0.949*
SIZE	0.001	0.001	0.001	0.006	0.009	0.011	0.016	0.031	0.023
P-value	*0.496*	*0.656*	*0.443*	*0.577*	*0.522*	*0.409*	*0.412*	*0.211*	*0.317*
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-square	6.76%	9.37%	6.21%	2.94%	3.51%	3.04%	6.67%	9.26%	6.87%
Adj. R-square	5.89%	8.09%	5.13%	2.03%	2.15%	1.94%	5.09%	6.94%	4.95%
No. of Obs.	1623	1074	1327	1623	1074	1327	900	601	742

Table 5 reports the results of the OLS regressions. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALL1 is total mutual funds' ownership measured by the listed firm's total number of shares, including all types of mutual funds' ownership. (5) L1 is long-term focused (including dedicated and quasi-index) mutual funds' ownership measured by the listed firm's total number of shares. (6) T1 is transient mutual funds' ownership measured by the listed firm's total number of shares. (7) TOP is the listed firm's largest shareholder's ownership. (8) MGN is the listed firm's managerial ownership. (9) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (10) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (11) UD is the ratio of the number of directors not receiving any payment from the firm to the total number of directors. (12) DE is the listed firm's debt to equity

ratio. (13) SGR is sales growth rate. (14) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (15) SIZE is the log value of the listed firms' total assets.

*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).

Table 7

	NCI			DACC			PDACC		
Regression	1	2	3	4	5	6	7	8	9
Intercept	0.002	-0.004	-0.035	-0.006	-0.026	-0.072	-0.004	-0.053	-0.128
P-value	*0.866*	*0.804*	*0.033*	*0.953*	*0.835*	*0.599*	*0.981*	*0.811*	*0.455*
ALLTP	-0.716***			-0.872			-1.225		
P-value	*<.0001*			*0.269*			*0.199*		
LTP		-0.423***			-0.414			-0.343	
P-value		*<.0001*			*0.390*			*0.586*	
TTP			-0.011**			-0.032			0.010
P-value			*0.019*			*0.598*			*0.645*
TOP	-0.009*	-0.010*	-0.012*	0.015	0.001	-0.015	-0.004	-0.011	-0.029
P-value	*0.094*	*0.078*	*0.053*	*0.558*	*0.962*	*0.651*	*0.917*	*0.768*	*0.497*
MGN	0.014***	0.018***	0.006	0.150***	0.139***	0.105**	0.088***	0.062*	0.068
P-value	*0.008*	*0.007*	*0.326*	*<.0001*	*0.001*	*0.032*	*0.010*	*0.085*	*0.116*
STATE	-0.004	-0.004	-0.010**	-0.017	-0.022	-0.030	-0.048	-0.050	-0.075*
P-value	*0.311*	*0.282*	*0.012*	*0.412*	*0.365*	*0.293*	*0.126*	*0.174*	*0.086*
CEOD	0.001	0.002	-0.001	-0.001	0.010	-0.006	-0.006	-0.002	-0.010
P-value	*0.550*	*0.569*	*0.679*	*0.941*	*0.337*	*0.658*	*0.520*	*0.808*	*0.389*
UD	0.007***	0.008***	0.009***	0.027**	0.028*	0.044***	0.026*	0.029	0.036*
P-value	*0.002*	*0.002*	*<.0001*	*0.037*	*0.065*	*0.006*	*0.088*	*0.113*	*0.071*
DE	0.002***	0.002***	0.002***	-0.009***	-0.009**	-0.007**	-0.004	-0.005	-0.004
P-value	*0.0001*	*0.0003*	*0.004*	*0.008*	*0.011*	*0.041*	*0.186*	*0.105*	*0.170*
SGR	-0.021***	-0.023***	-0.016***	-0.033	-0.034	-0.040	0.025	0.021	0.041
P-value	*<.0001*	*<.0001*	*<.0001*	*0.175*	*0.210*	*0.189*	*0.269*	*0.405*	*0.241*
ISSUE	0.004**	0.006**	0.0004	0.001	-0.002	0.016	-0.003	-0.002	0.008
P-value	*0.044*	*0.025*	*0.819*	*0.929*	*0.887*	*0.241*	*0.818*	*0.845*	*0.634*
SIZE	0.001	0.002	0.003	0.006	0.008	0.011	0.016	0.020	0.025
P-value	*0.508*	*0.336*	*0.122*	*0.592*	*0.504*	*0.453*	*0.373*	*0.355*	*0.167*
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-square	9.12%	10.27%	9.68%	2.90%	3.10%	3.33%	5.69%	5.62%	7.40%
Adj. R-square	8.27%	9.24%	8.40%	2.00%	1.99%	1.96%	4.09%	3.67%	5.03%
No. of Obs.	1623	1327	1074	1623	1327	1074	900	742	601

Table 8 reports the results of the OLS regressions. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALLP is total mutual funds' ownership (measured by the number of the listed firms' tradable shares) predicted by the listed firms' beta coefficients. (5) LP is long-term focused (including dedicated and quasi-index) mutual funds' ownership (measured by the number of the listed firms' tradable shares) predicted by the listed firms' beta coefficients. (6) TP is transient mutual funds' ownership (measured by the number of the listed firms' tradable shares) predicted by the listed firms' beta coefficients. (7) TOP is the listed firm's largest shareholder's ownership. (8) MGN is the listed firm's managerial ownership. (9) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (10) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (11) UD is the ratio of the number of

directors not receiving any payment from the firm to the total number of directors. (12) DE is the listed firm's debt to equity ratio. (13) SGR is sales growth rate. (14) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (15) SIZE is the log value of the listed firms' total assets.
*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).

Table 8

	NCI			DACC			PDACC		
Regression	1	2	3	4	5	6	7	8	9
Intercept	0.007	0.011	-0.029	-0.042	-0.058	-0.046	-0.029	-0.083	-0.084
P-value	*0.630*	*0.570*	*0.057*	*0.715*	*0.681*	*0.707*	*0.882*	*0.727*	*0.575*
ALLP	-0.722***			-0.785			-0.986		
P-value	*<.0001*			*0.323*			*0.300*		
LP		-1.153***			-1.014			-0.395	
P-value		*<.0001*			*0.423*			*0.807*	
TP			-0.177*			0.235			0.393*
P-value			*0.064*			*0.500*			*0.097*
TOP	-0.013***	-0.015***	-0.020***	0.003	-0.015	-0.039	-0.026	-0.034	-0.060*
P-value	*0.010*	*0.002*	*0.001*	*0.893*	*0.542*	*0.152*	*0.325*	*0.257*	*0.052*
MGN	0.014***	0.018***	0.009	0.158***	0.148***	0.112***	0.110***	0.085**	0.098***
P-value	*0.009*	*0.009*	*0.158*	*<.0001*	*0.000*	*0.024*	*0.003*	*0.033*	*0.040*
STATE	-0.004	-0.005	-0.010*	-0.018	-0.024**	-0.030	-0.046	-0.046	-0.072*
P-value	*0.283*	*0.222*	*0.091*	*0.383*	*0.026*	*0.280*	*0.188*	*0.191*	*0.091*
CEOD	0.002	0.002	-0.001	0.001	0.013	-0.005	-0.002	0.002	-0.003
P-value	*0.404*	*0.428*	*0.771*	*0.930*	*0.238*	*0.723*	*0.786*	*0.846*	*0.805*
UD	0.008***	0.009***	0.008***	0.026**	0.028**	0.043***	0.021	0.023	0.026*

P-value	*0.001*	*0.001*	*0.001*	*0.029*	*0.050*	*0.005*	*0.111*	*0.133*	*0.086*
DE	0.002***	0.002***	0.001***	-0.009***	-0.010***	-0.007**	-0.003	-0.004	-0.002
P-value	*0.001*	*0.001*	*0.010*	*0.007*	*0.010*	*0.042*	*0.218*	*0.124*	*0.332*
SGR	-0.008*	-0.004*	-0.019**	-0.022	-0.026	-0.071*	-0.030	-0.003	-0.054
P-value	*0.055*	*0.071*	*0.013*	*0.139*	*0.291*	*0.052*	*0.370*	*0.901*	*0.211*
ISSUE	0.004*	0.005*	0.001	0.001	-0.002	0.016	0.001	0.001	0.015
P-value	*0.087*	*0.056*	*0.881*	*0.926*	*0.872*	*0.243*	*0.903*	*0.943*	*0.326*
SIZE	0.001	0.001	0.002	0.009	0.012	0.008	0.018	0.022	0.020
P-value	*0.794*	*0.615*	*0.180*	*0.430*	*0.370*	*0.539*	*0.339*	*0.320*	*0.200*
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-square	6.45%	7.12%	8.80%	2.87%	3.07%	3.19%	6.71%	6.86%	9.93%
Adj. R-square	5.57%	6.06%	7.50%	1.96%	1.96%	1.82%	5.13%	4.94%	7.62%
No. of Obs.	1623	1327	1074	1623	1327	1074	900	742	601

Table 8 reports the results of the OLS regressions. (1) NCI is the listed firm's industry adjusted non-core income over its total assets. (2) DACC is the listed firm's discretionary accruals. (3) PDACC is the positive discretionary accruals. Thus, it only has 900 observations (approximately 55.45% of all discretionary accruals). (4) ALLP is total mutual funds' ownership (measured by the total number of the listed firms' shares) predicted by the listed firms' beta coefficients. (5) LP is long-term focused (including dedicated and quasi-index) mutual funds' ownership (measured by the total number of the listed firms' shares) predicted by the listed firms' beta coefficients. (6) TP is transient mutual funds' ownership (measured by the total number of the listed firms' shares) predicted by the listed firms' beta coefficients. (7) TOP is the listed firm's largest shareholder's ownership. (8) MGN is the listed firm's managerial ownership. (9) STATE is state ownership of the listed firms, including state-owned shareholdings and state-owned legal person shareholdings. (10) CEOD is a dummy variable, takes the value of 1 if CEO also holds the position of board chair, and zero otherwise. (11) UD is the ratio of the number of directors not receiving any payment from the firm to the total number of directors. (12) DE is the listed firm's debt to equity ratio. (13) SGR is sales growth rate. (14) ISSUE is a dummy variable, takes the value of 1 if the firm issued new shares in the previous year, 0 otherwise. (15) SIZE is the log value of the listed firms' total assets.

*, **, *** represent the statistical significance at the 0.1, 0.05, and 0.01 levels respectively (two-sided).