**Corporate governance, discretionary accruals and earnings informativeness: Evidence from China**

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**Abstract**

This paper investigates the relation between corporate governance, earnings management and informativeness of earnings for Chinese companies. Results show that the proportion of non-tradable shares over all outstanding shares is positively related to the absolute level of discretionary accruals. Firms that completed split-share structure reform decreased earnings management. Those results suggest that share non-tradability gives insiders an incentive for earnings management. Although we do not find evidence that individual corporate governance devices affect the earnings-stock return relation, the earnings-return relation becomes weak as the predicted value of the absolute discretionary accruals increases. This result suggests that in China, share non-tradability has an indirect effect on informativeness of accounting earnings through its influence on investors' belief on firms' expected levels of earnings management.

*JEL classification codes:* M10; M40

*Key Words:* Corporate governance; Share non-tradability; Earnings management; Informativeness of earnings; China

1. **Introduction**

Managerial opportunistic behaviors regarding reported earnings have received considerable attention from regulators and practitioners, especially since the recent accounting scandals by giant companies such as Enron, WorldCom and Xerox (e.g., Levitt, 1998). Earnings management is usually associated with expropriation of minority shareholder wealth, particularly in countries with concentrated ownership structures and weak investor protection regimes (Zhao & Chen, 2008; Kim & Yi, 2006; Leuz et al., 2003; Fan & Wong, 2002). Insiders (majority shareholders) who intend to extract private benefits or expropriate minority shareholder wealth will have an incentive to conceal their value-decreasing behaviors by aggressively using accounting discretions. These managerial opportunistic behaviors potentially make reported earnings less credible for investors.

Meanwhile, well-designed corporate governance structures are an effective way to mitigate expropriation problems and earnings management (Shleifer & Vishny, 1997; La Porta et al., 2000a; Klapper & Love, 2004; Gillan, S., 2006; Liu & Lu, 2007). Recent U.S. regulations (e.g., Sarbanes-Oxley Act and Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees) also require companies to adopt good corporate governance structures for high-quality accounting earnings.[[4]](#footnote-5) Academic literatures also show evidence that effective corporate governance is associated with low earnings management and more informative earnings: for board structure (Beasley, 1996; Dechow et al., 1996; Vafeas, 2000; Klein, 2002; Park & Shin, 2004; Peasnell et al., 2005; Srinivasan, 2005; Dimitropoulos & Asteriou, 2010); for audit committees (Teoh & Wong, 1993; Bartov et al., 2001; Klein, 2002; Butler et al., 2004); and for ownership structure (Warﬁeld et al., 1995; Fan & Wong, 2002; Yeo et al., 2002; Gabrielsen et al., 2002).

Although expropriation problems are more evident in countries with concentrated ownership structures and weak legal investor protection, most existing works have focused on developed countries in which investors’ rights are relatively well protected. It is particularly important to examine whether corporate governance has a substantial impact on earnings management in a country where severe expropriation problems exist. China provides an interesting situation for addressing this issue because Chinese companies have concentrated ownership structures and segmented share structures (tradable / non-tradable shares). It is well-documented that many Chinese listed companies are mainly owned by the state (Chen et al., 2006; Liu & Lu, 2007). The existence of a powerful controlling shareholder that pursues social and political objectives is likely to engender expropriation problems.[[5]](#footnote-6) Previous studies also suggest that the divergence between control rights and cash flow rights engenders expropriation problems (Johnson et al., 2000; Claessens et al., 2000; La Porta et al., 2000b; Dyck & Zingales, 2004). The segmented share structure in which majority shareholders mainly own non-publicly tradable shares engenders the divergence and expropriation problems. Indeed, previous studies suggest that in China, well-designed corporate governance structures significantly mitigate earnings management and make reported earnings more informative (Firth et al., 2007; Liu & Lu, 2007; Lo et al., 2010; Wang et al., 2007).

We extend previous studies in two dimensions. First, we use relatively recent Chinese data that provides us with an experimental setting to address the issue. The Chinese government announced the split-share structure reform in 2005, which converts non-tradable shares into tradable shares; as a result, Chinese corporate ownership structures have recently shown a substantial change. Given that the split-share reform is an exogenous event for firms, the reform gives us an opportunity to analyze the effect of share non-tradability on earnings management in a research environment that is less subject to endogeneity problems.

Given the notion that majority shareholders use earnings management to conceal their extraction of minority shareholder wealth, it is particularly important to investigate whether the earnings management decreases investors’ (minority shareholders’) reliance on accounting earnings. Thus, our second extension is to present a new perspective regarding the relation between corporate governance and earnings-stock return relation. The earnings-stock return relation is a topic that has received much attention from researchers because it reflects how investors react to reported earnings. Typical previous studies examine the relation between earnings-stock return relations and individual corporate governance devices (Ahmed et al., 2006; Dimitropoulos & Asteriou, 2010; Fan & Wong, 2002; Vafeas, 2000; Teoh & Wong, 1993; Firth et al., 2007; Yeo et al., 2002; Gabrielsen et al., 2002; Wang et al., 2007). However, investors should react more to reported earnings when they believe that the accounting information is not highly managed. Importantly, earnings management is likely to be affected by non-governance factors as well as governance factors; investors are likely to expect that firms with specific characteristics will engage in substantial earnings management even though those companies adopt strict corporate governance structures. This scenario will be especially true for China, where powerful control shareholders exist. We hypothesize that expected discretionary accruals that are determined by corporate governance structures and other factors affect the earnings-return relation.

We use a comprehensive data set of Chinese corporate governance structures from 2003 to 2009. Results show that the proportion of non-tradable shares over all outstanding shares is positively related to the level of earnings management. In addition, firms that completed the split-share structure reform show low levels of discretionary accruals when controlling for effects of non-governance factors. Those results suggest that the existence of non-tradable shares is an important cause of discretionary accruals in China. Although we do not find evidence that individual corporate governance devices affect the earnings-return relation, the earnings-return relation becomes strong as the predicted value of absolute discretionary accruals decreases. This finding provides support for the idea that investors react more to accounting earnings when they believe that the reported earnings are less managed. Overall, our results suggest that corporate governance has an indirect effect on informativeness of accounting earnings through its impact on investors’ belief in discretionary accruals.

Our results also have important policy implications. The China Security Regulatory Committee (CSRC) issued a notice requiring listed firms to establish independent boards in 2001, as well as launched the Code of Corporate Governance for Listed Companies in China in 2002. An idea underlying those public statements is that earnings quality is positively related to well-designed corporate governance structures. Our evidence suggests that those regulatory movements are in the right direction in terms of credibleness of reported earnings.

The rest of the paper is organized as follows. Section 2 presents hypotheses tested in this research. Section 3 explains our corporate governance variables. Section 4 describes our sample selection procedures and variables. Regression results are reported in Section 5. Section 6 concludes this research.

1. **Hypotheses development**

Corporate insiders’ utility consists of pecuniary compensations and private benefits. Pecuniary compensations are usually linked to corporate accounting performance (Coughlan & Schmidt, 1985; Mehran, 1995; Hallock & Oyer, 1999; Firth et al., 2006; Sun et al., 2009). As a result, managers can retrieve more benefits by reporting inflated earnings. In addition, previous papers show evidence that in emerging markets, insiders extract large private benefits at the expense of minority shareholder wealth (Johnson et al., 2000; Claessens et al., 2000; La Porta et al., 2000a, 2000b; Dyck & Zingales, 2004). Financial statements potentially give outsiders information to detect expropriation problems. In order to conceal value-decreasing behaviors (or extraction of private benefits), insiders also have an incentive to engage in earnings management. It is well-discussed that insiders have discretion over the recognition of accruals, which provide an opportunity for earnings management. For example, under Generally Accepted Accounting Principles (GAAP), insiders have considerable control over the timing of actual expense items (e.g., advertising expenses or R&D expenditure). They can also alter the timing of recognition of revenues and expenses (Teoh et al., 1998).

Shleifer & Vishny (1997) suggest that corporate governance is a means to reduce inefficiencies that arise from insiders’ moral hazards and adverse selection. Given this notion, corporate governance will mitigate insiders’ incentive to pursue private benefits and manipulate accounting earnings. Indeed, recent studies find that good corporate governance is associated with low levels of earnings management (Warﬁeld et al., 1995; Dechow et al., 1996; Bartov et al., 2001; Klein, 2002; Butler et al., 2004; Park & Shin, 2004; Peasnell et al., 2005; Liu & Lu, 2007; Firth et al., 2007; Yeo et al., 2002; Gabrielsen et al., 2002; Wang et al., 2007).

If firms choose optimal corporate governance structures, we should observe no cross-sectional association between governance structures and the level of accounting discretion. However, firms are likely to adopt suboptimal corporate governance structures as a result of information asymmetry and transactions costs (Coles et al., 2008). This situation allows improved corporate governance to curb earnings management. This is especially true for the reduction in the non-publicly tradable shares due to the split-share structure reform.

**Hypothesis 1:** *Firms that have good corporate governance structures show low levels of discretionary accruals.*

To test Hypothesis 1, we adopt the absolute value of discretionary accounting accruals (ADA), which is measured by the absolute difference between total accruals and non-discretionary accounting accruals divided by total assets at the beginning of the year. ADA allows us to capture the magnitude of earnings management by major shareholders who have an incentive to conceal expropriation problems. Among various measures of earnings quality (Dechow et al., 2010), discretionary accruals are one of the most commonly-used measures in the research of corporate governance and earnings management. ADA is suitable to our research because it computes the level of earnings management without any a priori assumptions on the goal of earnings management by majority shareholders.[[6]](#footnote-7) Differently from timely loss recognition (TLR), ADA does not use stock returns, which will be highly affected by expropriation problems, as a measure of firms’ true performance. We use the cross-sectional modified Jones model to estimate the non-discretionary accruals (Dechow et al., 1995). Bartov et al., (2001) suggest that the cross-sectional modified Jones model is superior to models that use time series estimation of non-discretionary accruals. Dechow et al. (2010) suggest that the cross-sectional modified Jones model increases the power of the Jones model (1991) by reflecting credit sales manipulation. Definitions of variables are presented in Table 1.

[Insert Table 1 about here]

Previous studies, such as Beaver (1968) and Ball and Brown (1967, 1968), show that earnings information is correlated with various equity market attributes (e.g. stock return, volume and volatility changes around earnings announcements). This result suggests that investors actively use accounting earnings in their buy-and-sell decisions. It is a natural inference that investors more actively use high quality accounting earnings. This idea motivates researchers to adopt earnings-stock return relation (proxied by earnings’ response coefficient to stock returns (ERC)) as a measure of informativeness of accounting earnings (Ahmed et al., 2006; Dimitropoulos & Asteriou, 2010; Fan & Wong, 2002; Vafeas, 2000; Teoh & Wong, 1993; Firfth et al., 2007; Yeo et al., 2002; Gabrielsen et al., 2002; Wang et al., 2007).

Importantly, managerial incentives of earnings management are likely to affect investors' belief in the credibility of reported earnings. Liu and Thomas (2000) find that ERC is high when earnings quality is high. This result suggests that stock returns will be less sensitive to accounting earnings if investors believe that reported earnings are highly manipulated. This situation is especially true for Chinese companies in which concentrated ownership structures and the split-share structure allow insiders to expropriate minority shareholder wealth. Previous studies estimate the direct impact of individual corporate governance devices (e.g., ownership and board structures) on the earnings-return relation to address the issue. Meanwhile, the degree to which investors react to accounting earnings should depend on their belief of how the firm’s reported earnings are managed as a whole rather than on the situation for individual corporate governance devices. Good corporate governance structures are likely to make investors predict small earnings management. However, investors’ belief of earnings management is likely to be affected by non-governance factors as well as by governance structures. If individual corporate governance devices have only marginal power of reducing earnings management, analyses of the relation between the earnings-return relation and individual governance devices may suffer from weak power of test. This problem potentially exists in China, where corporate insiders have a strong incentive of private benefits extraction and earnings management. Those discussions give rise to the new prediction that the accounting earnings become less informative when investors believe that the firm conducts substantial earnings management because of poor corporate governance structures and various characteristics.

**Hypothesis 2:** *Earnings-stock return relation decreases with the expected discretionary accruals, which are determined by corporate governance practices and other factors.*

1. **Corporate governance variables**

As mentioned, Chinese corporate governance has several unique characteristics that potentially engender expropriation problems. An important feature of this research is to adopt comprehensive corporate governance variables that include supervisor board characteristics, as well as ownership and board structures.[[7]](#footnote-8) This section describes the governance variables used in this research.

*3.1. Ownership structure*

Corporate ownership structure is the most important source of agency conflicts (Claessens & Fan, 2002; Shleifer & Vishny, 1997; Liu & Lu, 2007). In China, there has been a unique share segmentation system; shares of listed firms have been segmented into non-tradable shares and tradable shares. Tradable shares can be traded in the secondary market and are usually held by private investors. In contrast, majority shareholders generally hold non-tradable shares that cannot be traded in the secondary market.

Non-tradable share holdings allow Chinese majority shareholders to retain strong control power on the company.[[8]](#footnote-9) Meanwhile, they neither benefit from capital gains nor bear losses from stock price reductions. As a result, there is a divergence between control (voting) rights and cash flow rights (opportunity to realize capital gains) that give majority shareholders an incentive to extract private benefits at the expense of minority shareholders’ wealth (Johnson et al., 2000; Claessens et al., 2000; La Porta et al., 2000b; Dyck & Zingales, 2004). To conceal evidence of private benefits extraction, majority shareholders will be motivated to distort earnings information. Fan and Wong (2002) show evidence that divergence between cash flow rights and voting rights weakens informativeness of accounting earnings. To test this idea, we adopt the proportion of non-tradable shares over all outstanding shares (NTSR).

The unique share segmented structure has been substantially changed by the split-share structure reform that was initially announced in 2005.[[9]](#footnote-10) The reform is a notable attempt to transform the Chinese traditional ownership structure and enhance effectiveness of corporate governance. Specifically, the reform required Chinese firms to assign trading rights to non-tradable shares to decrease shares that are non-tradable in the secondary market. The implementation of split-share structure reform, which is an exogenous event for Chinese companies, is likely to substantially mitigate the divergence between control rights and cash flow rights. Therefore, insiders’ incentive of expropriation and earnings management will be decreased following the completion of split-share structure reform. To test the effect of the split-share structure reform on earnings management, we adopt a dummy variable that takes a value of one if a company completed the split-share structure reform and zero otherwise (D\_REFORM). We stress that the reform completion dummy allows us to investigate the effect of non-tradable shares while avoiding endogeneity problems.

In addition to share non-tradability, ownership concentration will also engender expropriation problems (Shleifer & Vishny, 1997; Fan & Wong, 2002; Firth et al., 2007; Liu & Lu, 2007; Lo et al., 2010). A few insiders who own the majority of shares of a company will be released from disciplinary mechanisms (Shleifer & Vishny, 1997; La Porta et al., 1999; Johnson et al., 2000; Fan & Wong, 2002; Liu & Lu, 2007). Consequently, concentrated ownership structures would give insiders more power to expropriate minority shareholders’ wealth and distort financial reports (entrenchment effect). Fan and Wong (2002) and Firth et al. (2007) find that ownership concentration significantly weakens the earnings-return relation. Following Fan and Wong (2002) and Firth et al. (2007), we use the percentage of shares owned by the largest shareholder as a measure of ownership concentration (CONCENTRATION).

Another unique feature in the Chinese corporate ownership structure is the existence of listed companies that are controlled by the state (state-owned enterprises; hereafter referred to as SOEs). In China, SOEs are an important measure for the government to retain control in some key industries (e.g. petroleum, aviation and communication). SOEs principally pursue social and political objectives (e.g., employment, tax revenue, social welfare, and so on) rather than shareholder value maximization (Liu & Lu, 2007). As a result, SOEs are likely to engender expropriation problems and engage in earnings management. We define SOEs as firms whose largest shareholder is the state (either central or local government). A dummy variable that takes a value of one for SOEs and zero for non-SOEs (D\_SOE) is adopted in this research.

*3.2. Board of directors*

Corporate board is an important governance device that is expected to monitor insiders’ behaviors. Numerous studies have investigated whether board characteristics (e.g., board size and independence) affect the absolute discretionary accruals and earnings informativeness (Beasley, 1996; Vafeas, 2000; Klein, 2002; Park & Shin, 2004; Ahmed et al., 2006; Firth et al., 2007; Dimitropoulos & Asteriou, 2010; Xie et al., 2003; Wang et al., 2007; Liu & Lu, 2007; Lo et al., 2010).

Large boards tend to have much expertise that increases the ability of detecting insiders’ wrong behaviors. Coles et al. (2008) find a positive relation between board size and performance of complex companies. This idea gives rise to the prediction that the absolute discretionary accruals decrease with board size. In contrast, large boards are subject to free-riding problems and high coordination costs among board members (Vafeas, 2000). Indeed, some previous studies show evidence that large boards are associated with low firm performance (Bennedsen et al., 2008; Eisenberg et al., 1998; Yermack, 1996). This idea gives rise to a prediction that large boards are less effective than small boards (Jensen, 1993; Lipton & Lorsch, 1992). Indeed, Vafeas (2000) and Ahmed et al. (2006) find a negative and significant relation between board size and informativeness of earnings. We use the natural logarithm of the number of board members as a proxy for board size (BOARDSIZE).

Independent directors are likely to bear substantial reputation costs if they fail to effectively monitor management (Fama & Jensen, 1983; Srinivasan, 2005). It is also a common idea that independent directors have more incentive to protect investors’ (especially minority shareholders’) interests than insider directors do (Fama & Jensen, 1983; Vafeas, 2000; Brickley & James, 1987; Weisbach, 1988; Byrd & Hickman, 1992; Xie et al., 2003). This idea gives rise to a prediction that more independent boards make it difficult for insiders to expropriate minority shareholder wealth and manage earnings. Liu and Lu (2007) suggest that discretionary accruals are negatively related to the proportion of directors who receive no compensation from the firm over board members. Lo et al. (2010) show that in China, board independence is negatively related to the level of transfer pricing manipulations. Similar results are also found in U.S. and U.K. companies by Klein (2002), Xie et al. (2003) and Peasnell et al. (2005). Thus, we adopt the percentage of independent directors over total board members (BINDEPENDENCE), which is expected to have a negative impact on discretionary accruals.

Board monitoring will become more effective, as directors’ personal wealth is more sensitive to firm value. High board ownership is likely to prevent insiders from conducting value-decreasing behaviors that increase their private benefits. Accordingly, earnings management is likely to decrease with board ownership. We use the percentage ownership by directors (DIRECOWN) and the percentage of directors who own shares (PDIREC\_SOWN) to test this idea.

Corporate governance researchers investigate how the dual role of board chairman and CEO affects firm value and managerial behaviors (Forker, 1992; Jensen, 1993; Dechow et al., 1996; Raheja, 2005). When board leadership and CEO power are concentrated into one person, the CEO is able to exert strong power and board members will find it difficult to oversee managerial behaviors (Jensen, 1993; Raheja, 2005). Forker (1992) and Dechow et al. (1996) find that firms that manipulate earnings are more likely to have a CEO who simultaneously serves as chairman of board. Following them, we adopt a dummy variable that takes a value of one when the CEO also serves as the chairman of board and zero otherwise (D\_DUAL). This variable is expected to have a positive relation to absolute discretionary accruals.

The board of directors usually includes an audit committee that is expected to oversee the financial reporting process (Beasley, 1996). CSRC issued the Code of Corporate Governance for Listed Companies in China in 2002 and suggests establishment of an audit committee to listed companies. The audit committee forms a liaison between outside auditors and board members to mitigate information asymmetry (Klein, 1998). However, previous studies present mixed evidence on the effectiveness of an audit committee. Dechow et al. (1996) focus on firms that are subject to enforcement actions by the SEC and find that financial frauds are more likely to occur in firms without an audit committee. In contrast, Abbott et al. (2000, 2004) argue that there is no evidence that the existence of an audit committee has a significant effect on the probability of firms’ engaging in financial fraud. Yang and Xu (2004) analyze firms with an audit committee in 2002 and find no significant changes in financial reporting quality before and after the establishment of an audit committee. To analyze the effect of audit committee, we adopt a dummy variable, which equals to one when the firm establishes an audit committee on the board and zero otherwise (D\_AUDIT).

Finally, we investigate whether turnovers of board chairmen affect the level of earnings management. A chairperson who turns out to have poorly monitored management is likely to be replaced. In this situation, the new chair is expected to improve the effectiveness of board monitoring, and accordingly, decrease discretionary accruals. In contrast, it may take time for the new chairman to run the board smoothly and coordinate with other board members. This situation suggests that earnings management can be temporally increased during the year of chairperson turnover. To test those ideas, we include a dummy variable that equals to one for firm-years at which the chief director of the board is replaced (Ch\_BCHAIR).

*3.3. Board of supervisors*

Chinese firms adopt a two-tier monitoring system that consists of a board of directors and board of supervisors. Guidelines for Chinese Listed Companies, which were issued in 2006, require companies to have supervisors who are independent of the board of directors and managers.[[10]](#footnote-11) Chinese Company Law empowers a supervisory board to monitor the firm’s accounting system and request necessary changes in accounting procedures. Importantly, the Code of Corporate Governance for Listed Companies in China allows the board of supervisors to report directly to the regulatory authorities if it finds any violations of laws, regulations, accounting standards, or the firm’s charters. Those arguments suggest that the supervisory board is expected to restrict insiders’ expropriation and detect aggressive earnings management. Characteristics of supervisory boards will affect the level of discretionary accruals as well as characteristics of the board of directors do.

As with the size of board of directors, there are two conflicting predictions on the relation between supervisory board size and earnings management. Large supervisory boards will include many outside experts who have greater expertise in financial accounting. Those sophisticated supervisors will have high ability to detect insiders’ value-decreasing behaviors and correspondingly decrease the level of earnings management. Indeed, Firth et al. (2007) find a negative and significant effect of supervisor board size on earnings management. In contrast, large supervisory boards are subject to free-riding problems and high coordination costs; as a result, large supervisory boards potentially give an opportunity and incentive of private benefits extraction and earnings management. We use the natural logarithm of the number of supervisory board members (SUPERSIZE) to test the effect of supervisory board size on the absolute discretionary accruals.

As with the director ownership, supervisor ownership will affect the members’ incentive to monitor insiders. We expect that the ownership by supervisory board members has a negative impact on the level of discretionary accruals. We use the percentage ownership by all supervisors (SUPEROWN) and the percentage of supervisors who own shares over all supervisors (PSUPER\_SOWN) as proxy variables for the supervisor ownership. Finally, we investigate whether turnovers of supervisory board chairman affect the level of discretionary accruals. We adopt a dummy variable that equals to one for firm-years at which the chairman of the supervisory board is replaced and zero otherwise (Ch\_CSUPER).

1. **Sample selection and data**

Our sample companies are collected from Chinese firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange from 2003 through 2009. Corporate financial data, governance data, and stock return data are obtained from the CCER (China Center for Economic Research, Peking University) database provided by Sinofin Information Service Company of China, LTD. Financial companies are excluded from our sample due to their regulatory environments and the different financial statement format (Vafeas, 2000; Peasnell et al., 2005; Firth et al., 2007). We delete firms for which necessary data is not available. As a result of those procedures, 6,449 firm-year observations (involving 1,252 firms) are adopted as our final sample.

[Insert Table 2 about here]

Panel A of Table 2 shows summary statistics. On average, non-tradable shares account for a substantial part (51.8%) of total outstanding shares (NTSR). However, more than 60% of firm-years have completed the split-share structure reform (D\_REFORM). Panels B and C of Table 2 separately show descriptive statistics for pre- and post-reform observations (only ADA, NTSR, and CONCENTRATION are presented). The mean NTSR is about 60% for pre-reform firm-years and 46.6% for post-reform observations. These figures clearly suggest that share non-tradability in China has been substantially decreased by the split-share structure reform. It would be also noteworthy that the standard deviation of NTSR is much higher for post-reform observations, suggesting that wide variations exist in NTSR during the post-reform period. On the other hand, ownership concentrations do not show a pronounced reduction; the mean CONCENTRATION is approximately 43% for pre-reform firm-years and 37.6% for post-reform observations. Hypothesis 1 predicts that the reductions in NTSR and CONCENTRATION decrease earnings management. However, ADA is about 6 percent for pre-reform observations and 7.2% for post-reform observations. We have to control for various factors to accurately measure the effect of the split-share structure reform (or reduction in NTSR) on earnings management.

　 For the whole sample, the mean CONCENTRATION is about 40%. Meanwhile, untabulated figures indicate that the percentage ownership by the second to fifth largest shareholders is only 15.2% (median is 12.3%). These figures suggest that Chinese ownership structures are highly concentrated and the largest shareholders can exert dominant control over listed companies. Table 2 also indicates that approximately 70 percent of listed companies are controlled by the state (D\_SOE). The average (median) board has 6.5 (6) members, and independent directors account for about one-third of total board members (BINDEPENDENCE). This figure suggests that Chinese companies adopt the minimum level of independent directors required by CSRC.[[11]](#footnote-12) The percentage ownership of board members (DIRECOWN) is about 0.80%, which is much higher than that of supervisor members (the mean SUPEROWN is 0.03%). Chief supervisors are more frequently replaced than board chairmen; approximately 30% of the sample’s firm-years experience turnovers of chief supervisor (Ch\_CSUPER), whereas only 18% changes the chair person of the board of directors (Ch\_BCHAIR).

1. **Regression results**

*5.1. Regression results of absolute discretionary accruals*

In this section, we conduct a regression analysis, which explains ADA by corporate governance variables and several control variables, to test hypothesis 1. It is likely that large firms engage less in earnings management due to close attention from investors and regulators (Holland & Jackson, 2004). Indeed, previous studies find that disclosure quality increases with firm size (Atiase, 1980, 1985; Freeman, 1987). We include the natural logarithm of assets (SIZE) in our control variables. Following Butler et al.’s (2004) and Firth et al.’s (2007) specifications, we include ROA and the square of ROA (ROA\_square) as a control variable. Dhaliwal et al. (1991) suggest that firms with high leverage are associated with high default risk, and therefore managers of highly leveraged firms tend to exploit discretionary accounting methods to conceal poor performance (Watts & Zimmerman, 1990). On the other hand, Smith and Watts (1992) document that leverage serves as a proxy for investment opportunity set. Matured firms have high leverage and are likely to report less managed earnings. We include leverage (LEV) to test those ideas. Tobin’s *Q* (*Q*), which is measured by the total book value of liabilities and market value of equity divided by the book value of assets, is included to control for the effect of the firm’s growth opportunity on earnings management. Growing firms have an incentive to manage earnings upward to meet earnings requirements for new securities issuance. Volatile accounting earnings will cause investors to perceive that the firm is risky, and thereby increase costs of capital (Beaver et al., 1970; Minton & Schrand, 1999). Therefore, growing companies are likely to smooth earnings by using earnings management.

Finally, year dummies are included in our estimations. Table 3 exhibits correlation coefficients among independent variables. The correlations among key independent variables are low and serious multicollinearity problems are less likely to exist.

[Insert Table 3 about here]

[Insert Table 4 about here]

Table 4 shows regression results of ADA. To address causality concerns, one-year lagged data is used for independent variables, except for the split-share structure reform dummy. Model (1) uses pooled OLS (*t*-statistics are computed by using firm-clustering standard errors) and Model (2) adopts a firm fixed-effects model for estimation. As for the ownership variables, NTSR has a positive and significant coefficient. This result, which is consistent with Firth et al.’s (2007) finding, provides support for the hypothesis that non-tradable shares engender expropriation problems and give insiders an incentive for earnings management. In addition, D\_REFORM has a negative and significant coefficient, suggesting that the completion of split-share structure reform mitigates the divergence between control and cash flow rights, and in turn, decreases earnings management. Those results provide strong evidence that non-tradability of shares has significantly increased earnings management of Chinese companies after controlling for various factors. The D\_REFORM result is particularly important in showing that an exogenous regulative change, which reduces share non-tradability, decreases the absolute discretionary accruals.

Board and supervisor ownership are expected to align interests of insiders with those of minority shareholders, and thereby mitigate earnings management. Consistent with this idea, Model (1) engenders a negative coefficient on PDIREC\_SOWN and SUPEROWN (significant at the 10% level). Although DIRECOWN and PSUPER\_SOWN has an insignificant coefficient, these results serve as weak evidence that ownership by monitors (directors and supervisors) decreases absolute discretionary accruals that are related to insiders’ incentive of private benefit extraction. Model (1) suggests that SUPERSIZE is negatively related to discretionary accruals. This result is consistent with the notion that large supervisor boards that include much expertise contribute to less managed accounting earning. Model (1) also suggests that absolute discretionary accruals increase at the year of the board chairman’s turnover, although the statistical significance level is marginal. Those results suggest that corporate governance structures provide investors with information regarding the expected level of the firm’s earnings management. Model (2), which uses a firm fixed-effects model, generates an insignificant coefficient on many corporate governance variables. We interpret that to mean that most governance variables of a specific company are stable over time (except for NTSR and D\_REFORM) and their effects are incorporated in firm fixed-effects.

Other governance variables have an insignificant coefficient (CONCENTRATION, D\_SOE, BOARDSIZE, BOARDINDEPENDENCE; D\_DUAL, and D\_AUDIT). Some of those results are consistent with findings by previous studies. Wang et al. (2007) find no evidence that absolute discretionary accruals increase with ownership concentration. We argue that share non-tradability is more important determinant of earnings management in China rather than ownership concentration. As with our analysis, Wang et al. (2007) and Liu and Lu (2007) find no significant difference in the level of earnings management between SOEs and non-SOEs. Although Vafeas (2000) and Ahmed et al. (2006) find a negative and significant relation between board size and informativeness of earnings, Dimitropoulos and Asteriou (2010) find no evidence of board size affecting earnings quality, which is consistent with our result. As mentioned, Liu and Lu (2007) and Lo et al. (2010) suggest that independent boards decrease earnings management of Chinese companies. In contrast, our results show no evidence of Chinese independent directors decreasing earnings management. Vafeas (2000), Park and Shin (2004), Ahmed et al. (2006), and Wang et al. (2007) present a similar finding for US, Canadian, New Zealand, and Chinese firms, respectively.

With respect to control variables, absolute discretionary accruals have a convex relation to ROA. We also find that growing firms with high leverage tend to manage earnings more. It is noteworthy that non-governance variables show high economic significance. For example, the Model (1) result suggests a one-standard deviation change in *Q* will increase the absolute discretionary accruals by approximately 1%. This effect is economically large, given that the mean ADA is 6.8%. On the other hand, a one-standard deviation change in NPTS will cause about 0.5% increase in ADA. These results potentially explain why our univariate analyses find an increase in ADA before and after the split-share structure reform. Untabulated figures indicate that the mean ROA, leverage, and Tobin’s *Q* increased before and after the reform.[[12]](#footnote-13) Our results suggest that investors’ belief in the expected discretionary accruals will be highly affected by non-governance firm characteristics, as well as by governance variables.

*5.2. Regression results of stock returns*

As mentioned, investors' belief in the expected level of earnings management is likely to affect the relation between earnings and stock returns. Previous studies investigate the effect of corporate governance on informativeness of earnings by using interaction terms of accounting earnings and individual corporate governance variables. However, it will be a plausible prediction that investors will react more to reported earnings when they expect that the firm conducts less earnings management. Importantly, non-governance variables substantially affect the investors' belief in the firms’ expected earnings management as well as governance variables do. This idea motivates us to conduct an empirical analysis of the relation between the expected value of absolute discretionary accruals (P\_ADA) and the earnings-return relation (Hypothesis 2). Specifically, we conduct a regression analysis that adopts firms’ annual stock returns (SRETURN) as a dependent variable. Key independent variables are earnings per share (EPS) and its interaction term with P\_ADA. Hypothesis 2 predicts that EPS\*P\_ADA has a negative coefficient. Following previous studies, we also include interaction terms of EPS with SIZE, ROA, LEV, and *Q* (Fan & Wong, 2002; Atiase, 1980, 1985; Freeman, 1987; Firth et al., 2007; Marquardt & Wiedman, 2004; Collins & Kothari, 1989; Easton & Zmijewski, 1989). Year and industry dummies are included to control for time and industry factors.[[13]](#footnote-14)

We present regression results that use interaction terms of EPS with individual governance variables before showing results from our specification. Models (1) and (2) of Table 5 engender a negative coefficient on EPS\*NTSR but the significance level is marginal. In addition, some variables have a coefficient that is opposite in sign to our prediction: EPS\*D\_REFORM has a negative and significant coefficient in Models (1) and (2); EPS\*CONCENTRATION has a positive and significant coefficient in Model (1); EPS\*SUPEROWN has a negative and significant coefficient in Models (1) and (2). Although Model (2) suggests that earnings-return relation becomes strong for firms with independent boards, the results present no clear evidence that good corporate governance improves informativeness of accounting earnings.

[Insert Table 5 about here]

Models (3) and (4) of Table 5 adopt the interaction term of EPS and raw ADA to examine whether informativeness of accounting earnings decreases with the level of discretionary accruals (not predicted value). The analysis engenders a positive coefficient on the interaction term of EPS and ADA, which contradicts the idea that investors react more to reported earnings when realized absolute accruals are small. The result suggests that realized ADA is noisy so that investors do not take it into consideration when deciding whether to respond to accounting earnings. For example, companies that usually report less managed earnings might engage in large earnings management in a particular year. Investors are less likely to react differently to the accounting earnings of that year.

Table 6 adopts the interaction term of EPS and P\_ADA to test whether investors' belief in firms' earnings management affect informativeness of accounting earnings. (Model (1) adopts pooled OLS and Model (2) uses a firm fixed-effects model). Both models engender a negative and significant coefficient on the interaction term of EPS and P\_ADA. This result provides evidence that informativeness of accounting earnings decreases with the expected discretionary accruals that are affected by corporate governance structures as well as non-governance factors. In other words, corporate governance has an indirect effect on earnings informativeness through its direct effect on investors' belief in firms' discretionary accruals. Investors react to accounting earnings if the firm's corporate governance structure and various characteristics (performance, size, and leverage) indicate that the expected earnings management is small.

[Insert Table 6 about here]

With respect to control variables, our firm fixed-effects model estimations engender a positive and significant coefficient on EPS. Accounting earnings are significantly related to stock returns when investors believe that the firm engages in small earnings management. Table 6 also suggests that informativeness of accounting earnings increases with firm performance and leverage, and decreases with firm size.

*5.3. Additional analyses*

Generally, it takes a few years for companies to complete the split-share structure reform. Analyses so far make D\_REFORM by using the firm’s reform completion year, but forced reductions in non-publicly tradable shares potentially begin a few years before the reform completion. We also conduct the same analyses by defining D\_REFORM as one if the firm has initiated the split-share structure reform. The analyses engender qualitatively similar results (not reported): (a) the non-tradable share ratio is positively and significantly related to ADA; (b) the split-share structure reform dummy has a negative effect on earnings management; and (c) the interaction term of EPS and the renewed P\_ADA has a negative coefficient in the regression of stock returns.

So far, we have not found evidence that ownership concentration engenders managerial opportunistic behaviors on reported earnings. As a robustness check, we conduct analyses that define the percentage ownership by the top five shareholders as CONCENTRATION. This analysis also shows no evidence that ownership concentration affects ADA; whereas, NTSR has a positive and significant relation to ADA (not reported). Those results serve as robust evidence that share non-tradability is a more important determinant of earnings management recently in China, rather than ownership concentration.

1. **Conclusion**

This paper investigates the relation between corporate governance structures, earnings management, and earnings informativeness by using recent data of Chinese companies. The unique segmented-share structure in Chinese companies gives majority shareholders opportunities to extract private benefits. Those majority shareholders are likely to have an incentive to engage in earnings management to conceal their value-decreasing behaviors. Importantly, the segmented-share structure has been substantially decreased by the split-share structure reform, which started in 2005. The recent Chinese data offers us an appropriate research setting to investigate the effect of corporate governance on managerial opportunistic behaviors on reported earnings.

By using a comprehensive data set of Chinese corporate governance, we find that share non-tradability has a significant impact on the level of discretionary accruals. Specifically, firms with more non-tradable shares manage earnings more. Firms that complete split-share structure reform decrease the level of discretionary accruals when controlling for effects of various factors. Previous studies investigate whether individual corporate governance devices affect informativeness of accounting earnings. However, investors will react less to reported earnings when they believe that the company engages in high earnings management. Importantly, investors’ belief in the expected absolute accruals will be affected by various firm characteristics as well as corporate governance structures. To address this issue, we adopt the interaction term of earnings per share and the predicted value of absolute discretionary accruals to explain firms' annual stock returns. Results suggest that stock returns are more linked to accounting earnings as the firm’s predicted value of absolute discretionary accruals becomes low. In contrast, our data shows no clear evidence that individual corporate governance devices increase informativeness of accounting earnings. This result suggests that corporate governance (especially share non-tradability) has an indirect effect on informativeness of accounting earnings through its influence on investors' belief in firms' earnings management.

This paper contributes to the literature by using the recent Chinese data that includes corporate governance variables before and after the split-share structure reform. Given that the reform is an exogenous event for firms, the analysis allows us to accurately examine the effect of share non-tradability on earnings management. In addition, this is the first paper that shows the indirect effect of corporate governance on informativeness of accounting earnings. Corporate governance structures provide investors valuable information regarding the expected level of firms' earnings management. That is why corporate governance ultimately affects investors' reactions to reported accounting earnings.

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**Table 1**

**Definition of variables**

|  |  |
| --- | --- |
| Variable | Definition |
| ADA | The absolute value of discretionary accounting accruals. The discretionary accounting accruals are measured by the difference between total accruals and non-discretionary accounting accruals. The cross-sectional modified Jones model (1995) is used to estimate the non-discretionary accounting accruals. |
| SRETURN | Annual cumulative stock return |
| EPS | Earnings per share |
| Ownership structure | |
| NTSR | The percentage of non-tradable shares over total outstanding shares |
| D\_REFORM | Dummy variable that takes a value of one if a company completed the non-publicly tradable share reform and zero otherwise. |
| CONCENTRATION | The percentage ownership by the largest shareholder |
| D\_SOE | Dummy variable that takes a value of one for state owned enterprises and zero for others. |
| Board of directors | |
| BOARDSIZE | The natural logarithm of the number of board members |
| BINDEPENDENCE | The proportion of independent directors over total board members |
| DIRECOWN | The percentage ownership by all board members. |
| PDIREC\_SOWN | The proportion of board members who own the firm’s shares over all board members. |
| D\_DUAL | Dummy variable that takes a value of one if the CEO also serves as the chairperson of the board |
| D\_AUDIT | Dummy variable that takes a value of one if the firm establishes audit committee |
| Ch\_BCHAIR | Dummy variable that takes a value of one if the firm replaces the chairperson of the board |
| Board of supervisors | |
| SUPERSIZE | The natural logarithm of the number of supervisor board members. |
| SUPEROWN | The percentage ownership by all supervisor board members |
| PSUPER\_SOWN | The proportion of supervisor board members who own shares of the company over total supervisors. |
| Ch\_CSUPER | Dummy variable that takes the value of one when the firm replaces the chief supervisor and zero otherwise. |
| Control variables | |
| SIZE | Natural logarithm of assets |
| ROA | Return on assets |
| ROA\_square | Square of ROA |
| LEV | Debt divided by assets |
| *Q* | The total book value of liabilities and market value of equity divided by the book value of total assets |

**Table 2**

**Descriptive statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| This table indicates descriptive statistics. The entire sample consists of 6,449 firm-year observations during 2003 – 2009 of 1,252 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange. See Table 1 for definition of variables. | | | | | |
| Variable | Mean | Median | S.D. | 1st quartile | 3rd quartile |
| *Panel A: Whole sample (N=6449)* | | | | | |
| ADA | 0.068 | 0.043 | 0.094 | 0.019 | 0.084 |
| SRETURN | 0.370 | -0.027 | 1.056 | -0.348 | 0.961 |
| EPS | 0.219 | 0.167 | 0.390 | 0.056 | 0.346 |
| Ownership structure | | | | | |
| NTSR | 0.518 | 0.548 | 0.167 | 0.410 | 0.640 |
| D\_REFORM | 0.614 | 1.000 | 0.487 | 0.000 | 1.000 |
| CONCENTRATION | 0.398 | 0.380 | 0.165 | 0.265 | 0.527 |
| D\_SOE | 0.718 | 1.000 | 0.450 | 0.000 | 1.000 |
| Board of directors | | | | | |
| The number of board members | 6.548 | 6.000 | 1.746 | 6.000 | 7.000 |
| BINDEPENDENCE | 0.337 | 0.333 | 0.069 | 0.333 | 0.364 |
| DIRECOWN | 0.008 | 0.000 | 0.052 | 0.000 | 0.000 |
| PDIREC\_SOWN | 0.260 | 0.167 | 0.303 | 0.000 | 0.500 |
| D\_DUAL | 0.126 | 0.000 | 0.332 | 0.000 | 0.000 |
| D\_AUDIT | 0.627 | 1.000 | 0.484 | 0.000 | 1.000 |
| Ch\_BCHAIR | 0.178 | 0.000 | 0.383 | 0.000 | 0.000 |
| Board of supervisor | | | | | |
| The number of supervisor board members | 4.270 | 4.000 | 1.481 | 3.000 | 5.000 |
| SUPEROWN | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 |
| PSUPER\_SOWN | 0.204 | 0.000 | 0.278 | 0.000 | 0.333 |
| Ch\_CSUPER | 0.301 | 0.000 | 0.459 | 0.000 | 1.000 |
| Control variables | | | | | |
| SIZE | 21.524 | 21.428 | 1.005 | 20.823 | 22.097 |
| ROA | 0.041 | 0.034 | 0.063 | 0.011 | 0.067 |
| LEV | 0.502 | 0.515 | 0.167 | 0.387 | 0.626 |
| *Q* | 1.407 | 1.205 | 0.665 | 1.062 | 1.481 |
| *Panel B: Pre-reform observations (N=2491)* | | | | | |
| ADA | 0.060 | 0.041 | 0.071 | 0.019 | 0.075 |
| NTSR | 0.600 | 0.618 | 0.116 | 0.538 | 0.686 |
| CONCENTRATION | 0.432 | 0.421 | 0.169 | 0.290 | 0.575 |
| *Panel C: Post-reform observations (N=3958)* | | | | | |
| ADA | 0.072 | 0.046 | 0.105 | 0.020 | 0.089 |
| NTSR | 0.466 | 0.485 | 0.173 | 0.349 | 0.598 |
| CONCENTRATION | 0.376 | 0.357 | 0.158 | 0.247 | 0.501 |

**Table 3**

**Correlation matrix**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| This table indicates correlation coefficients among variables. See Table 1 for definition of variables. | | | | | | | | | | |
|  | ADA | SRETURN | EPS | BOARDSIZE | DIRECOWN | PDIREC\_SOWN | BINDEPENDENCE | D\_DUAL | D\_AUDIT | Ch\_BCHAIR |
| ADA | 1.00 |  |  |  |  |  |  |  |  |  |
| SRETURN | 0.09 | 1.00 |  |  |  |  |  |  |  |  |
| EPS | 0.02 | -0.05 | 1.00 |  |  |  |  |  |  |  |
| BOARDSIZE | -0.04 | -0.01 | 0.03 | 1.00 |  |  |  |  |  |  |
| DIRECOWN | 0.01 | 0.02 | 0.05 | -0.03 | 1.00 |  |  |  |  |  |
| PDIREC\_SOWN | -0.05 | -0.03 | 0.01 | -0.03 | 0.19 | 1.00 |  |  |  |  |
| BINDEPENDENCE | 0.04 | 0.16 | 0.07 | -0.20 | 0.06 | -0.05 | 1.00 |  |  |  |
| D\_DUAL | 0.01 | -0.02 | -0.01 | -0.06 | 0.06 | 0.01 | 0.00 | 1.00 |  |  |
| D\_AUDIT | 0.04 | 0.08 | 0.09 | 0.02 | 0.02 | -0.08 | 0.24 | -0.01 | 1.00 |  |
| Ch\_BCHAIR | 0.03 | 0.00 | -0.07 | 0.01 | -0.05 | -0.10 | -0.04 | -0.02 | -0.01 | 1.00 |
| SUPERSIZE | -0.04 | 0.01 | 0.03 | 0.33 | -0.08 | -0.02 | -0.07 | -0.05 | 0.03 | 0.01 |
| SUPEROWN | -0.01 | 0.00 | 0.04 | -0.01 | 0.43 | 0.14 | 0.04 | 0.01 | 0.01 | -0.02 |
| PSUPER\_SOWN | -0.04 | -0.05 | 0.00 | 0.00 | 0.06 | 0.64 | -0.08 | -0.01 | -0.05 | -0.05 |
| Ch\_CSUPER | 0.01 | 0.00 | 0.00 | -0.05 | 0.02 | -0.07 | 0.02 | -0.03 | 0.01 | 0.16 |
| CONCENTRATION | -0.03 | -0.07 | 0.12 | -0.01 | -0.13 | -0.01 | -0.09 | -0.05 | -0.08 | -0.01 |
| NTSR | -0.03 | -0.20 | 0.00 | 0.05 | -0.01 | -0.09 | -0.20 | -0.03 | -0.25 | 0.03 |
| D\_SOE | -0.04 | -0.03 | 0.02 | 0.17 | -0.22 | 0.02 | -0.10 | -0.10 | 0.01 | 0.03 |
| D\_REFORM | 0.06 | 0.39 | 0.13 | -0.06 | 0.09 | -0.09 | 0.37 | -0.01 | 0.34 | -0.03 |
| SIZE | -0.01 | 0.05 | 0.29 | 0.20 | -0.08 | 0.09 | 0.09 | -0.07 | 0.11 | -0.01 |
| ROA | 0.02 | -0.08 | 0.77 | 0.01 | 0.06 | -0.01 | 0.04 | -0.01 | 0.07 | -0.07 |
| ROA\_square | 0.07 | -0.02 | 0.42 | 0.00 | 0.05 | -0.02 | 0.05 | 0.01 | 0.09 | -0.02 |
| LEV | 0.08 | 0.08 | -0.13 | 0.04 | -0.06 | -0.03 | 0.06 | -0.04 | 0.05 | 0.02 |
| Q | 0.09 | -0.25 | 0.18 | -0.10 | 0.06 | -0.04 | 0.06 | 0.05 | 0.14 | 0.01 |

**Table 3 (Continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | SUPERSIZE | SUPEROWN | PSUPER\_SOWN | Ch\_CSUPER | CONCENTRATION | NTSR | D\_SOE | D\_REFORM | SIZE | ROA | ROA\_square | LEV | *Q* |
| SUPERSIZE | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| SUPEROWN | -0.04 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |
| PSUPER\_SOWN | -0.03 | 0.13 | 1.00 |  |  |  |  |  |  |  |  |  |  |
| Ch\_CSUPER | -0.04 | -0.01 | -0.10 | 1.00 |  |  |  |  |  |  |  |  |  |
| CONCENTRATION | 0.06 | -0.07 | 0.00 | -0.03 | 1.00 |  |  |  |  |  |  |  |  |
| NTSR | 0.04 | 0.02 | -0.04 | -0.02 | 0.55 | 1.00 |  |  |  |  |  |  |  |
| D\_SOE | 0.21 | -0.14 | 0.04 | -0.05 | 0.28 | 0.11 | 1.00 |  |  |  |  |  |  |
| D\_REFORM | -0.03 | 0.05 | -0.11 | 0.04 | -0.17 | -0.39 | -0.07 | 1.00 |  |  |  |  |  |
| SIZE | 0.17 | -0.06 | 0.07 | -0.04 | 0.21 | -0.06 | 0.21 | 0.15 | 1.00 |  |  |  |  |
| ROA | 0.05 | 0.04 | -0.01 | -0.01 | 0.14 | 0.06 | 0.00 | 0.08 | 0.18 | 1.00 |  |  |  |
| ROA\_square | 0.06 | 0.01 | -0.01 | 0.00 | 0.06 | 0.00 | -0.01 | 0.08 | 0.10 | 0.54 | 1.00 |  |  |
| LEV | 0.01 | -0.04 | -0.02 | 0.01 | -0.08 | -0.08 | -0.03 | 0.10 | 0.25 | -0.28 | -0.17 | 1.00 |  |
| *Q* | -0.05 | 0.00 | -0.05 | 0.06 | -0.17 | -0.24 | -0.09 | 0.16 | -0.20 | 0.29 | 0.32 | -0.18 | 1.00 |

**Table 4**

**Regression results of absolute discretionary accruals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| This table indicates regression results of the absolute discretionary accruals. The absolute discretionary accruals are computed by using cross-sectional modified Jones model (Dechow et al., 1995).The sample consists of 6,449 firm-year observations during 2003 – 2009 of 1,252 firms listed on Shanghai Stock Exchange and Shenzhen Stock Exchange. Model (1) uses pooled OLS (t-statistics are computed by using firm-clustering standard errors). Model (2) uses firm fixed-effects model. See Table 1 for definition of variables. | | | | |
|  | Coefficient | t-statistics | Coefficient | t-statistics |
| (1) | | (2) | |
| Pooled OLS | | Firm fixed-effects model | |
| Constant | 0.089\*\* | 2.14 | 0.614\*\*\* | 3.27 |
| NTSR | 0.029\*\* | 2.05 | 0.045\*\* | 2.45 |
| D\_REFORM | -0.010\*\*\* | -2.76 | -0.008\* | -1.69 |
| CONCENTRATION | -0.003 | -0.28 | 0.023 | 0.90 |
| D\_SOE | -0.004 | -0.99 | 0.009 | 0.97 |
| BOARDSIZE | -0.008 | -1.21 | 0.019 | 1.39 |
| BINDEPENDENCE | 0.003 | 0.13 | 0.012 | 0.40 |
| DIRECOWN | 0.009 | 0.51 | -0.019 | -0.26 |
| PDIREC\_SOWN | -0.010\* | -1.93 | -0.023 | -1.46 |
| D\_DUAL | 0.001 | 0.38 | 0.002 | 0.56 |
| D\_AUDIT | 0.001 | 0.38 | -0.001 | -0.21 |
| Ch\_BCHAIR | 0.006\* | 1.84 | 0.002 | 0.61 |
| SUPERSIZE | -0.008\* | -1.78 | 0.006 | 0.63 |
| SUPEROWN | -0.513\* | -1.78 | -0.369 | -0.57 |
| PSUPER\_SOWN | 0.003 | 0.61 | 0.003 | 0.39 |
| Ch\_CSUPER | -0.001 | -0.48 | -0.002 | -0.62 |
| SIZE | -0.001 | -0.80 | -0.029\*\*\* | -3.24 |
| ROA | -0.016 | -0.53 | -0.029 | -0.74 |
| ROA\_square | 0.396\*\* | 2.24 | 0.112 | 0.60 |
| LEV | 0.057\*\*\* | 5.41 | 0.005 | 0.18 |
| *Q* | 0.016\*\*\* | 2.95 | 0.018\*\*\* | 2.69 |
| Year dummies | Yes | | Yes | |
| Adjusted R2 | 0.035 | | 0.037 | |
| Num of observations | 6449 | | 6449 | |

\*\*\*: Significant at the 1% level; \*\*: Significant at the 5% level; \*: Significant at the 10% level

**Table 5**

**Regression results of earnings informativeness**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| This table indicates regression results of annual stock returns. The sample consists of 6449 firm-year observations during 2003 – 2009 of 1,252 firms listed on Shanghai Stock Exchange and Shenzhen Stock Exchange. See Table 1 for definition of variables. | | | | | | | | |
|  | Coefficient | t-stat. | Coefficient | t-stat. | Coefficient | t-stat. | Coefficient | t-stat. |
|  | (1) | | (2) | | (3) | | (4) | |
|  | Pooled OLS | | Firm fixed effects model | | Pooled OLS | | Firm fixed effects model | |
| Constant | 1.393\*\*\* | 36.12 | 1.437\*\*\* | 57.64 | 1.373\*\*\* | 36.6 | 1.431\*\*\* | 59.11 |
| EPS | 0.319 | 0.83 | 1.425\*\* | 2.15 | 0.006 | 0.02 | 1.621\*\*\* | 3.11 |
| EPS\*NTSR | -0.305\* | -1.8 | -0.258 | -1.09 |  |  |  |  |
| EPS\*  D\_REFORM | -0.250\*\*\* | -5.45 | -0.315\*\*\* | -5.21 |  |  |  |  |
| EPS\*CONCENTRATION | 0.462\*\*\* | 3.49 | 0.342 | 1.44 |  |  |  |  |
| EPS\*D\_SOE | 0.015 | 0.35 | 0.063 | 0.92 |  |  |  |  |
| EPS\*  BOARDSIZE | -0.124 | -1.44 | -0.048 | -0.34 |  |  |  |  |
| EPS\*BINDEPENDENCE | 0.528 | 1.56 | 0.986\*\* | 2.42 |  |  |  |  |
| EPS\*  DIRECOWN | 0.072 | 0.21 | 0.177 | 0.35 |  |  |  |  |
| EPS\*PDIREC\_SOWN | -0.003 | -0.03 | 0.036 | 0.27 |  |  |  |  |
| EPS\*D\_DUAL | -0.018 | -0.39 | 0.018 | 0.29 |  |  |  |  |
| EPS\*  D\_AUDIT | -0.082\* | -1.78 | -0.003 | -0.05 |  |  |  |  |
| EPS\*  Ch\_BCHAIR | -0.004 | -0.07 | -0.026 | -0.45 |  |  |  |  |

**Table 5 (Continued)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EPS\*  SUPERSIZE | 0.092 | 1.43 | -0.030 | -0.28 |  |  |  |  |
| EPS\*  SUPEROWN | -12.183\*\* | -2.56 | -27.776\*\*\* | -2.76 |  |  |  |  |
| EPS\*PSUPER\_SOWN | 0.096 | 1.08 | 0.134 | 1.13 |  |  |  |  |
| EPS\*  Ch\_CSUPER | -0.026 | -0.69 | -0.024 | -0.51 |  |  |  |  |
| EPS\*ADA |  |  |  |  | 0.506\* | 1.8 | 0.171 | 0.55 |
| EPS\*SIZE | -0.023 | -1.27 | -0.087\*\*\* | -2.81 | -0.012 | -0.77 | -0.091\*\*\* | -3.63 |
| EPS\*ROA | 0.413\*\*\* | 2.94 | 0.380\*\* | 2.01 | 0.203 | 1.64 | 0.199 | 1.06 |
| EPS\*LEV | 0.458\*\*\* | 3.75 | 0.498\*\*\* | 2.78 | 0.306\*\*\* | 2.58 | 0.396\*\* | 2.23 |
| EPS\*Q | -0.043\*\*\* | -2.63 | -0.118\*\*\* | -4.15 | -0.062\*\*\* | -3.1 | -0.125\*\*\* | -3.66 |
| Year dummy | Yes | | Yes | | Yes | | Yes | |
| Industry dummy | Yes | | No | | Yes | | No | |
| Adjusted R2 | 0.665 | | 0.696 | | 0.662 | | 0.693 | |
| N | 6449 | | 6449 | | 6449 | | 6449 | |

\*\*\*: Significant at the 1% level; \*\*: Significant at the 5% level; \*: Significant at the 10% level

**Table 6**

**Regression results of earnings informativeness**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| This table indicates regression results of annual stock returns. The sample consists of 6449 firm-year observations during 2003 – 2009 of 1,252 firms listed on Shanghai Stock Exchange and Shenzhen Stock Exchange. P\_ADA is the predicted value of ADA (computed by using estimated coefficients in Table 4). See Table 1 for definition of variables. | | | | |
|  | Coefficient | t-stat. | Coefficient | t-stat. |
|  | (1) | | (2) | |
|  | Pooled OLS | | Firm fixed effects model | |
| Constant | 1.375\*\*\* | 36.43 | 1.438\*\*\* | 58.23 |
| EPS | 0.456 | 1.22 | 4.944\*\*\* | 4.49 |
| EPS\*P\_ADA | -2.223\*\*\* | -2.64 | -6.769\*\*\* | -4.62 |
| EPS\*SIZE | -0.030\* | -1.72 | -0.230\*\*\* | -4.65 |
| EPS\*ROA | 0.553\*\*\* | 2.63 | 0.456\*\* | 2.17 |
| EPS\*LEV | 0.523\*\*\* | 3.58 | 0.519\*\*\* | 2.95 |
| EPS\*Q | -0.029 | -1.4 | -0.040 | -1.10 |
| Year dummy | Yes | | Yes | |
| Industry dummy | Yes | | No | |
| Adjusted R2 | 0.662 | | 0.695 | |
| N | 6449 | | 6449 | |

\*\*\*: Significant at the 1% level; \*\*: Significant at the 5% level; \*: Significant at the 10% level

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4. Sarbanes-Oxley Act (SOX), enacted on July 30, 2002, directed the SEC to require CEOs and CFOs of all public companies to certify the “material accuracy and completeness of the financial statements (Title IV Enhanced Financial Disclosures)”. SOX also restricted the provision of non-audit services by auditors and imposed specific requirements concerning the function, independence and financial expertise of a firm’s audit committee to address investors’ concern about the integrity of financial reporting (Title II Auditor Independence). The Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees, issued in February 1999 by the New York Stock Exchange and National Association of Securities Dealer, contains ten recommendations to improve the function of the corporate audit committee and to enhance the reliability and credibility of financial statements of public companies. [↑](#footnote-ref-5)
5. For instance, SOEs tend to employ an excess of workers (Boycko et al., 1996) and hire managers who have political connections (Krueger, 1990). In addition, SOEs are subject to political intervention in their operations and decisions (Kornai, 1992), as well as deliberate transfer of resources from companies to politicians (Shleifer & Vishny, 1998). [↑](#footnote-ref-6)
6. In this research, usage of earnings persistence requires the assumption that majority shareholders have an incentive to report less persistent earnings (earnings that are not related to previous earnings) to conceal expropriation problems. If we use income smoothness, we have to assume that volatile earnings can hide expropriation problems. It is extremely difficult to justify those assumptions. [↑](#footnote-ref-7)
7. Previous studies tend to focus on a specific aspect of corporate governance structures, except Firfth et al. (2007) and Liu and Lu (2007). [↑](#footnote-ref-8)
8. Indeed, the main purpose of the non-tradable shares issue is to keep control on firms rather than raise funds from capital markets, especially for state-owned enterprises (SOEs). [↑](#footnote-ref-9)
9. Most Chinese companies started their split-share reform in 2005 or 2006. [↑](#footnote-ref-10)
10. This guideline prohibits the manager, directors, and financial officers of the company from being a member of the supervisory board. [↑](#footnote-ref-11)
11. “Guidance for Establishing Independent Directors System for Listed Companies (CSRC, 2001)” requires Chinese listed companies to gradually establish an Independent Directors System and make qualified independent directors account for at least one-third of board members. [↑](#footnote-ref-12)
12. The mean ROA increased from 3.5% for pre-reform observations to 4.5% for post-reform observations. Similarly, LEV increased from 48.1% to 51.5%. Tobin’s *Q* increased from 1.27 to 1.49. [↑](#footnote-ref-13)
13. Industry classification is based on the Classification Guidance of Chinese Listed Companies, formulated by CSRC in 1998. [↑](#footnote-ref-14)