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Analysis of the relationship between earnings management and board structure in China

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by

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Abstract

This paper aims at investigating the specific relationship between board structure characteristics and level of earnings management among the listed firms of Shanghai and Shenzhen stock exchange, China. The measurement of earnings management is discretionary accruals (DACC), which is calculated by Modified Jones Model. Our sample consists of 1476 firms over the period of 2013 to 2016. The result reveals that the board structure characteristics is effective in reducing the level of earning management. We find a significantly negative association between the level of earnings management and board structure characteristics such as board size, board composition and audit committee. The findings broaden the scope of the importance of board structure in reducing earnings manipulation. Some studies have been conducted in this area, but in recent years such studies with empirical evidence given are rare, so the paper resolves the issue of the lack of latest research in China.

Keywords: earnings management, corporate governance, discretionary accruals, modified jones model.

JEL Classification: G34, M41

I. Introduction

In business world, Financial scandals commonly exists in every corner and bring negatively impact on several stakeholders, and such actions may include earnings manipulations, tax evasion, behavior of swindle consumers and some other frauds that disobey the rule of ethics and integrity. For example, the case of Enron's audit scandals has astonished the public, and after what it had done was revealed, its business kingdom soon collapsed with all of its wealth. In fact, the destruction of Enron and some other companies that commit to the similar fraud is necessary, at the same time, even though certain companies also hide some data fact to convince stakeholders, the behaviors of them are not illegal but more covert. Intentional earnings management is certainly one of such actions.

Intentional earnings management allows managers to take advantage of the asymmetry of financial information, leaving stakeholders a more profitable impression of the firm and attracting more investments. In the meantime, the managers can get their own profits. Therefore, with the purpose to protect the rights of the stakeholders, it is important for an organization to have an effective board structure mechanism to prevent its manager to utilize the asymmetry of financial information. In recent years, the extensive attention across the world has been paid to mitigate and resolve the phenomena of earnings management, and the effectiveness of board structure has been discussed widely, suggesting that a stronger governance mechanism would be helpful in both reducing opportunistic management behavior and improving the quality and reliability of companies' earnings .

The obvious development of Chinese economy can be witnessed worldwide. From the last three decades, China has undergone an extraordinary period of rapid growth (Gulzar,

2011), and the progress is continuing. According to Chinese National Bureau of Statistics, during the period from 2013 to 2018, the GDP of China increase at a steady rate, and the average annual growth rate exceeds 7%. Although the pace of the growing trend has gradually slow down, still, in 2018 the GDP of China reached 90.03 hundred billion RMB with the growth rate of 6.6%, reflecting sufficient stimulus and strong underlying growth incentives.

Simultaneously, the outstanding development of China draws attention from a great number of investors comprise both domestic ones and exotic ones, and the opportunities to penetrate such a fast-developing market which has great potential is indeed tempting. However, the competitive economic environment in China determines that not all the listed firms can get equal chance to receive satisfying attention and investments, as a result, to display remarkable profitability may help the firms to accomplish their goals and earnings management is an easy approach to reduce the difficulties. Based on previous studies, Chinese listed firms have strong stimulus to intentionally manipulate earnings, especially in order to meet regulation requirements to raise new equity capital in the stock market. (Qiao and Zhou, 2007; Gulzar, 2011) Therefore, to protect the profits of the investors, it is vital to study on the specific relationship between the characteristics of corporate governance and earnings management so that the rights of the stakeholders can be protected by changing board structure policies.

Because earnings management is a widespread phenomenon among many countries' listed firms including Chinese ones, many previous papers have studied on the magnitude of earnings management in corresponding countries' firm. For example, Jiang et al (2008) finds

out the association between earnings management of board meetings and CEO duality, Alves(2011) finds the effectiveness of board size, and Xie, et al(2003) points out the background of the members in audit committee have association with level of earnings management. The number of studies in this realm is not small, and many of them make impressive contributions. However, compared to the paper studied on relationship between corporate governance and earnings management done by using foreign data, the number of papers studies on Chinese domestic data do not seem to be abundant. What's more, based on the preparation work we have done for this paper, many past papers study on Chinese situation generate their results based on the data before 2010 (Xie et al, 2003; Ding et al, 2007; Jiang, 2008; Gulzar, 2011) , while the research based on recent data can seldom be seen. In the meantime, with time going by, it's hard to guarantee that empirical results of the previous studies are still valid. As a result, there is a blank space exists in this field and need to be filled up.

Generally, the purpose of this paper is to investigate the study of earnings management and board structure by using the recent data and to better understand and demonstrate if a proper board structure mechanism is effective to restrict the level of earnings management nature in the Chinese listed companies. We will mainly focused on several features of corporate structures, such as board size, board composition and the existence of audit committee, and some other governance factors, including managerial share percentage of the company will be regarded as control variables to make the result of the paper more valid and convincing . We hope the paper will inspire researchers, government and firm administration, no matter on academic research or on company management and regulations.

In the next section, we will discuss several past studies regarding earnings management and characteristics of board structure, developing the research hypotheses of the paper. In Section IV we describe the research methodology, including the formulas and models we use in order to measure discretionary accruals and explanatory variables. Section V presents our sample selection and empirical results. Finally, in Section VI, based on the context and the findings of the paper, we give several concluding remarks and further recommendations.

II. Literature review and hypotheses development

The earnings management behavior of listed companies has been the focus of both stakeholders and regulatory departments since the establishment of Chinese securities market because earnings management seem both prevalent and problematic in practice (Skinner, 2000). The purpose of the essay is to figure out certain relationship between earnings management and board structure. To acquire more accurate and practical result, admittedly, some related past studies will play a pivotal and indispensable role.

Before summarizing the chosen past studies, the concept of earnings management should be defined at the beginning. According to Healy and Wahlen (1998), earnings management refers to the phenomenon which occurs when managers use judgment in financial reporting and in structuring transactions with the purpose to manipulate earnings or alter financial reports. They believe that such behavior has two main purposes. First, earnings management can mislead some stakeholders about the authentic economic performance of the company. Secondly, earnings management is able to influence contractual outcomes reflected by accounting numbers in the report. Therefore, in general, the essence of earnings

management is a sort of deception, and the behavior itself should be supervised and prevented. However, the ultimate motives of earnings management, or who indeed provides the opportunities for earnings management is the key to resolve such issue. According to Qiao and Zhou (2007), earnings management is a pervasive phenomenon in China, and the contradiction within large private benefits of control, poor level of board structure is poor and weak protection of minority investors is the ultimate cause. To some extent, a sound board structure can effectively monitor the earnings information made by management, as a result, some corresponding issues, including how to define whether a board structure is more beneficial, what kind of corporations are more incline to do earnings management and characteristics do they have are definitely vital. Referring to past studies, the following factors are mentioned frequently:

Firstly, some researchers believe that board size is an important characteristic which can affect the monitoring ability of the board. Previous researches have already acknowledged that board size might be relevant to firm performance. The papers of Jensen (1993) and Eisenberg et al. (1998) demonstrate that larger boards can reduce the efficiency of the board and cause problems in several aspects such immediate communication and successful decision-making. In the meantime, some studies believe that boards should have a size with a specific range (Goodstein et al. 1994; Yermack 1996;). Some papers find a positive association between board size and earnings management (Rahman and Ali, 2007), while others find a negative relationship (Xie et al, 2003) or even no association (Bradbury et al., 2006). might contribute to earnings management and undertake further study. Thus, based on the past studies above, we make the first hypothesis of this paper:

H1. Board size have negative impact on the level of earnings management

Secondly, referring to some of the past studies, when considering the board, the proportion of the director who are outside the corporation are regarded important, and the fact is that abundant number of evidences can support the hypothesis that independent outside directors are essential when there is an agency problem since they protect shareholders in specific instances (Xie et al, 2003; Klein, 2002). Similarly, it is raised by scholars that a board composed of mostly non-executive directors can improve earnings quality, and higher proportion of independent directors on the boards is inversely related to the fraud related to financial statement (Dechow et al. 1996; Alves, 2011). Other researches such as the study of Peasnell et al. (2006) also provide evidence to show that the greater the proportion of outside directors, the smaller the magnitude of problematic accruals. However, some researchers point out that there is no relationship between the degree of earnings manipulation and the proportion of outside directors and institutional shareholders (Yang et al, 2009). Therefore, the actual relation between the proportion of outside directors and the control of earnings management is still controversial and remains to be discussed. Then, we draw the second hypothesis which we will verify it in the following part:

H2. The percentage of non-executive directors on the board has positive relationship with earnings management.

Also, except for board structure, many past studies also participate in the discussion towards the role of audit committee, and the result is also distinctive. In the essay of Xie (2003), audit committee members with corporate or financial backgrounds are less likely to be associated with firms that have discretionary current accruals. Meanwhile, other researchers may hold the opposite idea. For instance, Yang et al. (2009) reveals that there is no proof to prove that the existence of an audit committee affects the levels of earnings management. Besides, some researchers such as Klein (2002) proclaim that the relation between earnings management and audit committee is only significant when the independent directors are not major of the audit committee, while Dechow et al. (1996), Be'dard et al. (2004), and Benkel et al. (2006) all give empirical results to prove that audit committee is able to reduce the likelihood of earnings management. To sum up, the perspectives of the significance of audit committees are more complicated and diversified, and the further research needs to be more prudent and objective. According to previous studies' findings, for audit committee, we made the third hypothesis as following:

H3. The existence of an audit committee has positive relationship with earnings management.

Simultaneously, some other factors have also been studied by researchers all around the world. To be specific, the function of the leaders and the difference between genders are widely considered. Klein (2000) finds that boards structured to be more independent of the CEO are more effective and cautious when monitoring the corporate financial accounting

process. As for gender, it is also an issue that arises many researchers' interest. Peni and Vahamaa (2010) figure out that female CFOs prefer more impartial earnings management strategies. Similarly, as for gender of audit committee, Thiruvadi and Huang (2011) discover consistent evidence to show that the presence of a female director on the audit committee constrains earnings management because the female directors treat discretionary accruals more fairly and are less likely to alter earnings intentionally. These characteristics related to board structure are also valuable for future research and should not be neglected.

Furthermore, some other possible components that might contribute or reduce the level of earnings management are taken as control variables and will be discussed later in the section of empirical methodology.

In conclusion, based on the past studies done by former researchers, before starting the analysis of the relationship between board structure and earnings management in China, we have given the several hypotheses. As the procedures of this research continue, the hypothesis above will be justified or rejected later by the eventual results.

III. Research Design

i) Measuring board structure

This study predicts a linear relationship between board structure characteristics and earnings management. As is mentioned above, to verify if the board structure of the firm can effectively monitor earnings management, based on the research context of past studies appeared in the part of literature review, this paper will focus on three main characteristics of board structure, characteristics highlighted by past researchers. Specifically, they consist of

board size, board composition and committees. Board size (Bsize) refers to the concrete number of members on the board, and to divide the number of independent board members by the total number of board members, we can compute board composition (Bcomp). As for audit committee (Audit), it is measured as an indicator variable, taking the value of 1 when an audit committee exists in the firm, otherwise taking the value of 0.

ii) Empirical model

Based on the previous research done by Gulzar (2011) and the processing approach above, this study uses the following regression model to assess the association between board structure and earnings management:

$$\begin{aligned}
 DACC_{it} = & \beta_0 + \beta_1(Bsize_{it}) + \beta_2(Bcomp_{it}) + \beta_3(Audit_{it}) + \beta_4(managerial_{it}) + \beta_5(meeting_{it}) + \beta_6(lev_{it}) \\
 & + \beta_7(size_{it}) + \beta_8(roat_{it}) + \beta_9(dual_{it})
 \end{aligned} \tag{1}$$

where $DACC_{it}$ stands for discretionary accruals for firm i in period t , and this variable will be further explained in the part of measurement. $Bsize_{it}$ is the number of members on the board of firm i for period t ; $Bcomp_{it}$ is the ratio between the number of non-executive directors and the total number of board members of firm i for period t ; $Audit_{it}$ is a dummy variable taking a value 1 if firm i has an audit committee for period t and 0 otherwise; $Managerial_{it}$ is measured as the proportion of the company's shares directly or indirectly owned by the manager; The $meetings_{it}$ variables is the number of board meetings for firm i in period t . Lev_{it} are calculated as the ratio between the book value of total liabilities and total assets of the firm i in period t . $Size_{it}$ is calculated as the natural logarithm of assets of the firm i in period t . $Roat_{it}$ is calculated by earnings before interests and taxes divided by total assets of the firm i in period t . $Dual_{it}$ is a dummy variable takes the value of 1 if the manager and the chairman is the same

person of the firm i in period t , otherwise the value of the variable is 0. β_0 is intercept; β_1 to β_9 are coefficients; the DACC and control variables will be discussed in detail later.

iii) Measuring earnings management

Referring to previous study, we use discretionary accruals as a measurement to quantify the level of earnings management, and we use cross sectional variation of the modified Jones model proposed by Dechow et al. (1995) to estimate discretionary accruals, and such model is renowned and used widely by researches about earnings management (Alves, 2011; Gulzar, 2011; Klein, 2002; Chtourou et al, 2001; Xie et al , 2003; Yang et al, 2009; Liu and Lu, 2007).

The modified Jones model consists of regressing total accruals (TACC) on three variables:

- (1) the change in revenues (ΔRev);
- (2) the change in receivables (ΔRec)
- (3) the number of properties, plant and equipment (PPE).

The modified Jones model is as follows:

$$\frac{\text{TACC}_{it}}{\text{TA}_{it-1}} = \alpha_1 \left(\frac{1}{\text{TA}_{it-1}} \right) + \alpha_2 \left(\frac{\Delta\text{Rev}_{it} - \Delta\text{Rec}_{it}}{\text{TA}_{it-1}} \right) + \alpha_3 \left(\frac{\text{PPE}_{it}}{\text{TA}_{it-1}} \right) + \varepsilon_{it} \quad (2)$$

where TACC is the total accruals in year t , calculated by net income deduct operating cash flows; TA is the total assets at the beginning of year t ; ΔRev is the difference in revenues; ΔRec is the difference in accounts receivable; PPE is the gross property, plant and equipment; and i and t are firm and year.

At the same time, non-discretionary accruals (NDAC) are the predictions from the ordinary least squares (OLS) estimation of the model above, while discretionary accruals

(DACC) are the residuals.

iii) Control variables

Except for board size, board composition and existence of audit committee, there are some other factors related to earnings management and should be displayed in the regression model. Therefore, certain control variables need to be introduced so that we can eliminate other incentives that may influence firms' accounting choices. Previous studies reveal that Managerial ownership (Managerial), board meetings(meetings), leverage(lev) and return on assets(roa) and CEO duality(dual) are associated with earnings management (DeFond and Jiambalvo, 1994; Warfield et al, 1995; Chtourou et al 2001;Alves 2011, Klein 2002; Xie et al 2003; Ali et al, 2008; Jiang, 2008; Banderlipe ,2009; Sun and Rath 2009; Gulzar,2011).

Managerial ownership (managerial). The alignment of interest hypothesis suggests that larger levels of ownership by the executive directors on the board may decrease the likelihood of earnings management as share ownership should create incentive alignment with external shareholders. Warfield et al. (1995), Ali et al. (2008) and Banderlipe (2009) document a negative association between managerial ownership and the absolute value of discretionary accruals. Managerial is measured as the proportion of the company's shares directly or indirectly owned by the manager.

Board meetings (meetings). Board meetings stimulate the communications between boarders and increase the decisive participation of different boarders. Xie et al (2003) and Gulzar (2011) find that board meeting frequency is associated with levels of discretionary current accruals and as the meeting frequency goes up, the mangers are less likely to involve in earnings management. Thus, we use meeting frequency as a control variable as well. The

meetings variables are frequency of board meetings.

Leverage (lev). Higher leverage level represents higher liabilities burden, and some past studies (DeFond and Jiambalvo, 1994; Ali et al., 2008; Jiang et al., 2008) assert that high level of debt will motivate managers to manipulate earnings so that the firms can avoid violating the debt covenants. However, according to the research of chung, et al (2002), leverage ratio and earnings management are negatively related, and reason is that external supervisors will reduce the opportunities to alter earnings. Therefore, the level of leverage needs to be taken into consideration to increase the validity of the result. Lev variables are calculated as the ratio between the book value of total liabilities and total assets of the firm.

Firm size(size). According to the studies of Jiang et al. (2008) and Banderlipe (2009), firms with a larger size are associated with a lower level of absolute discretionary accruals, and this might be explained as larger firms are under more stringent supervision and attention from both external and internal stakeholders. However, Siregar and Utama (2008)'s research gets the opposite result that firm size is not relevant to earnings management. In order to verify the effectiveness of firm size and increase the accuracy of the result, firm size is used as a control variable in the regression model. We calculate it as the algorithm of the total assets.

Return on assets(roat). Return on asset measures the profit a firm earns in relation to its total resources, and some past studies such as the papers of Sun and Rath (2009) and Gulzar(2011) prove that the ratio of return on assets can reflect the likelihood that a company change its earnings report. To be specific, their findings show that the company have lower return on overall resources are more incline to manipulate earnings. Therefore, we use it as a

control variable as well. The data of return on assets is calculated as net income divided by total assets.

CEO duality(dual). The CEO duality means that the chairman of the firm and the CEO of the firm is the same person. The separate of the CEO and chairman positions can achieve the differentiation of rights and enhance the monitoring of the earnings management (Gulzar, 2011; Klein,2002), so the firms without CEO duality are less apt to manage earnings. However, on the contrary, the paper of Saleh and Rahmat (2005) denies the theory and has the opposite conclusion as their research result provides evidence to prove that CEO duality is not significantly associated with both income-increasing and income-decreasing earnings management. The CEO duality is a dummy variable takes the value of 1 if the CEO and the chairman of the firm is the same person, otherwise the value is 0.

IV. Sample Selection & Empirical Results

Sample selection:

Our sample is initially obtained from the Reports of Private Listed Company, Report of board structure and Report of Financial Indicators Analysis on CCER (China Center for Economic Research) and CSMAR (China Stock Market Accounting Research). The records consist of year-end data for all the private listed firms of Shanghai and Shenzhen stock exchange, China. The sample contains 1476 firms over the period of 2013 to 2016. Among all the observations, we exclude firms that either miss financial variables or have insufficient data in order to estimate performance-matched accruals and increase the accuracy of data. Also, we eliminate observations of financial institutions, because their special accounting

methods will make the estimation of discretionary accruals inaccurate. Also, we exclude the observations that have negative value of earnings management. Besides, companies that have absence in financial data, board structure information on directors and that only provides partial available financial reports are also excluded.

Empirical results:

Table I. Summary of descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Bsize	2432	8.331	1.641	4	18
Bcomp	2432	.374	.053	.182	.667
audit	2432	.919	.28	0	1
managerial	2432	6.935	12.944	0	67.602
meetings	2432	10.87	4.514	2	44
Size	2432	9.586	.457	6.664	11.336
Lev	2432	.569	.237	.09	8.612
dual	2432	.35	.477	0	1
Roa	2432	.056	.271	-.219	0.86

Table I presents the sample descriptive statistics for the explanatory variables used in this research. Board size (Bsize) is comprised of approximately 8 members on average. As is shown in Table I, the value of the variable ranges from 4 to 18, thus the differences in this variable is quite huge. As for board composition (Bcomp), the mean of the variable is about 37 percent, revealing the average percentage of independent directors on the board in the firms. At the same time, with a minimum of 0.182 percent and a maximum of 0.667 percent, similar to the board size, this variable also has significant differences across the firms. Meanwhile, according to the Table I, we can also figure out that about 92 percent of the chosen listed companies have an audit committee (Audit). Based on the result of the descriptive statistics for the board size, board composition and audit committee variables

shown in the Table I, most of the Chinese listed firms have their own audit committee, but the board structure and composition of them vary from each other's.

As for control variables, within Chinese listed companies, the average percentage of the stock held by managers(managerial) is 6.9 percent, but the maximum value is almost 68 percent, suggesting that in some firms the managers hold extremely large share of stocks. Similarly, even though the mean of the meeting frequency(meetings) is 10.87, the range of the frequency is 42, which means that many firms hardly ever held meetings while some of firms held meetings at a high frequency. The average of the firm size is 9.586 million, with the maximum of 11.336 and the minimum of 6.664. The leverage (Lev) variable represents on average 0.569 of the total assets of the firm. The statistics of CEO duality(dual) stand for the fact that 35 percent of the company has CEO duality. Finally, return on assets(roa) variable shows the average ratio of the Chinese listed company is 0.056.

Table II. Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Bsize	1.000						
(2) Bcomp	-0.487**	1.000					
(3) managerial	-0.103*	0.096	1.000				
(4) meetings	0.005	0.002	-0.006	1.000			
(5) size	0.146*	-0.078	-0.156*	0.324**	1.000		
(6) lev	-0.182*	0.004	0.041	0.070	-0.055	1.000	
(7) roa	-0.004	-0.004	0.002	-0.051	-0.090	0.072	1.000

Next, in Table II, the correlations between the explanatory variables are documented.

Here the dummy variables (audit committee and CEO duality) are not included in Table II, considered that the Pearson correlation coefficient is not computed to binaries variables.

Based on the result of the Table II, we can figure out some significant correlations within variables. Firstly, board composition (Bsize) is negatively related to the variable board size (Bsize), showing that the large board may have smaller percentage of independent directors. Next, the percentage of the stock held by the manager(managerial) has negative relationship with board size, suggesting that managers of firms that have larger board are more likely to hold lower percentage of stock. Then, as is shown in the Table, firm size(size) has positive relationship with board size and meeting frequency while it also has negative association with firm size. The information reveals that large firms have larger board size and higher board meeting frequency, but the managers of the firms held lower percentage of the total share of the stock.

Table III. Regression results

DACC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	-.011	.002	-4.27	0	-.016	-.006	***
Bcomp	-.189	.045	-4.19	0	-.277	-.1	***
Audit	-.031	.009	-3.50	0	-.049	-.014	***
managerial	-.001	0	-4.06	0	-.001	0	***
meetings	.001	.001	1.08	.281	-.001	.003	
Size	.025	.008	3.04	.002	.009	.041	***
Lev	.273	.11	2.48	.013	.057	.489	**
Dual	.006	.005	1.27	.203	-.003	.015	
Roa	.07	.022	3.16	.002	.026	.113	***
Constant	-.137	.139	-0.99	.325	-.41	.136	
Mean dependent var		0.080	SD dependent var			0.121	
R-squared		0.401	Number of obs			2432.000	
F-test		21.321	Prob > F			0.000	
Akaike crit. (AIC)		-4616.528	Bayesian crit. (BIC)			-4558.564	
*** $p < .01$, ** $p < .05$, * $p < .1$							

The next part shows the OLS regression estimate of the equation 1 of the paper. Generally, the adjusted r-square is 0.401, which shows that the model can basically explain the relationship within variables.

Referring to the result of the regression, board size of the firm is negatively related to the level of earnings management. This association implies that when the board size of the firm increases, the degree of earnings manipulation will decrease, revealing that companies' larger size of the boards may help to restrict the possibility of the intentional earnings management and protect the stakeholders' profits.

Similarly, we find the association of board composition and earnings management is also negative. Thus, we can conclude that the higher the percentage of the independent directors on board, the lower the level of earnings management. Such result conveys the message that independent directors of the company may play a role of the supervisors and they are essential in reduce the possibility of the firm to do income increasing earnings manipulation.

Furthermore, the empirical result of the audit committee variable also shows its relationship with earnings management. According to the Table III, the existence of the audit committee is negatively related to the level of earnings management. This association indicates the effectiveness of setting an audit committee on limiting earnings management. Similar to the role of independent directors on board, the audit committee may also provide supervision to the financial report and actual earnings level.

The result mentioned above suggests that the board structure of Chinese listed companies can mitigate the level of earnings management, and the firm has the following characteristics of board structure are more likely to have lower level of earnings management: larger board

size, higher percentage of the independent directors on board, and owes an audit committee.

Therefore, we can to some extent believe that the boards of Chinese listed firms are crucial in monitoring earnings management related activities.

Regarding the control variables, we can also find some other useful information. To begin with, consistent with the studies of Warfield, et al(1995), Klein (2002) and Alves (2011), the managerial is negatively related to earnings management, a result suggest that when managerial ownership becomes higher, the magnitude of discretionary accruals will correspondingly reduce. Meanwhile, we found that larger firms are more incline to do earnings manipulation, and such result is different from Siregar and Utama (2008)'s research's but same the findings in papers of Jiang et al. (2008) and Banderlipe (2009). Then, similar to finding of some previous studies(DeFond and Jiambalvo, 1994; Ali et al., 2008; Jiang et al., 2008) but different from chung, et al (2002)'s finding, the relationship of leverage and earnings management shown in the table reflects that large leverage level will stimulate managers to participate in earnings management activities in order to avoid possible debt covenant violation. Besides, different from the empirical result of Sun and Rath (2009) and Gulzar (2011), we find that the return on assets(roa) and earnings management have certain positive relationship, suggesting that firms whose return on assets, ratio is high have higher possibility to intentionally alter the earnings. Finally, contrary the studies of Xie et al (2003) and Gulzar (2011), the regression results also manifest that there is no significant relationship between the meeting frequency of the company and the level of earnings management. Also, consistent with the paper of Saleh and Rahmat (2005), our paper find no direct evidence to prove that the CEO duality will have significant impact on earnings

manipulation, and such result is different from the findings in paper of Gulzar (2011) and Klein (2002).

V. Conclusion

The target of this research paper is to investigate the relationship between board structure characteristics and the level of earnings management. The motivation behind this study is the assertion from previous researches that the existence of certain board structure characteristics will have negative influence on earnings management. The findings of our research can verify the hypotheses we made at the beginning of the paper and they can be explained as followed:

We find negative associations between board structure characteristics and discretionary accruals, which stand for the level of earnings management. Based on our empirical result, we can speculate that a larger board size can effectively reduce the phenomenon of earnings manipulation because the supervision in the board is more stringent. At the same time, our research finds that the presence of higher portion of independent boarders on board can effectively reduce the level of earning management and the reason is similar to that of board size. What's more, referring to our finding, the existence of firms' audit committee is proved to have negative association with earnings management. In specific, a firm with an audit is more likely to have lower level of earnings management than a firm with none.

Simultaneously, we can also find useful information about the influence of other factors on earnings management. Our result shows that the magnitude of a company's discretionary accruals is lower when these conditions are met: 1) the manager holds higher percentage of

the stock. 2) the leverage ratio of the firm is low. 3) the return on assets ratio is low.

Therefore, we can draw the conclusion that relationship with the characteristics of board structure and audit committee indeed exists. Based on the contribution of this paper, the Chinese government and firm can recognize the significance of the board structure characteristics and establish regulations and policies. First, increase the size of the board may reduce the likelihood of earnings manipulation. Second, change the board composition. To be specific, to increase the percentage of independent directors by absorb more external shareholders will strengthen the supervision or monitoring of earnings manipulation. Third, other approaches, especially to set up audit committee, will enhance the audit quality of the firms as well as restrict earnings management in Chinese listed companies and protect the benefits of stakeholders.

Admittedly, there are some limitations in this paper. Firstly, the calculation of total accruals is not accurate enough due to the unavoidable model error. As Ball and Shivakumar (2006) have pointed out, the traditional linear model ignores the asymmetric treatment of gains and losses under conservatism accounting principle, resulting in significantly weaker coefficients of independent variables. However, the nonlinear model considering conservatism accounting principle can explain significantly more accrual variations. Therefore, the Modified Jones Model (Dechow et al, 1995) we used as the tool to measure the earnings management may not perfectly reflect the total discretionary accruals in the firms. Secondly, we do not select the most recent data sample. Due to the time limitation and the difficulties in finding complete data resource, data in 2017 and 2018 is not used in this paper, so the result cannot perfectly present the time proximity. Thus, for future researches on

related topic, we suggest that the author utilize more precise nonlinear model to improve the measurement of discretionary accruals and adopt sample with larger size and better proximity.

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