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The effect of CEO duality and board independence on earnings management

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The Effect of CEO Duality and Board Independence on Earnings Management

ABSTRACT

This paper studies the influence of CEO duality and board independence on earnings management for Chinese firms with three-year increasing earnings. Modified Jones Model (1995) is used to calculate discretionary accruals to measure the level of earnings management and only firms with positive accruals are investigated. The result is that CEO duality has a positive and statistically significant relationship with earnings management for firms with three-year increasing earnings. However, this paper finds no significant relationship between board independence and corporate governance. This study contributes to existing research about corporate governance and earnings management in China.

Keywords: Board Independence, CEO Duality, Corporate Governance, Discretionary Accruals, Earnings Management

JEL Classification: G34, M41

I. INTRODUCTION

Chinese companies have great incentives to manage earnings to meet the expectation of market (Gulzar and Wang, 2011) or to meet certain requirement of return on equity to be qualified to issue stock (Qiao and Lu, 2007). Some managers also do earnings management to pursue their own interests, including more compensations and job promotions. In addition, the market environment in China such as poor corporate governance regulations and low transparency of financial reports creates opportunities for managers to do earnings management. However, earnings management misleads investors by providing inaccurate or false information about financial reports.

Thanks to the economic development of China, Chinese companies have attracted domestic and global investors. With the underdevelopment of legal system and loose enforcement of laws, Chinese market provides little protection for investors (Qiao and Lu, 2007). Under this background, corporate governance is important since corporate governance constrains the level of earnings management, thus increasing the reliability of financial information provided by the company and protecting stakeholders. Therefore, companies should use different corporate governance mechanisms to protect the right of investors. Also, investors can make their investment decision based on the corporate governance mechanism of companies.

This research investigates the influence of CEO duality and the percentage of independent directors on earnings management for Chinese listed firms with three-year increasing earnings. CEO Duality refers to the situation that CEO and the chairman on the board is the same person in the company. Board independence refers to the proportion of independent

director and is calculated by the number of independent directors over total number of directors on board. This study aims to get an understanding of whether the presence of corporate governance features, specifically CEO duality and the proportion of indirect directors, is useful to control the degree of earnings management in Chinese companies.

CEO duality lead to the situation where one person who serves as CEO and also chairman has too much power. Prior studies conclude that the degree of earnings management will increase when CEO also positions as the chairman on board, which means CEO duality is positively related with earnings management (Sarkar et al., 2006; Chen and Liu, 2010; Gulzar et al.,2011). Some research indicates that there is no significant relationship between CEO duality and earnings management (Davidson et al., 2005; Rahman and Ali, 2007; Garcia-Meca and Sanchez, 2009). The first hypothesis of this paper is that CEO duality is positively related with earnings management for Chinese firms with a pattern of increasing earnings. Ebrahim (2007) and Davidson et al. (2005) claim that there is a negative association between the proportion of independent directors and earnings management. Some research concludes that an insignificant relationship exists between board independence and earnings manipulation (Chtourou et al., 2001; Rahman and Ali, 2006; Garcia-Meca and Sanchez, 2009). The second hypothesis of the paper is that board independence has a negative relationship with earnings management in Chinese firms with a pattern of increasing earnings.

The result is based on a sample of 2373 Chinese listed companies during 2012-2016 in China Stock Market and Accounting Research (CSMAR). Modified Jones model (1995) is used to calculate discretionary accruals to measure the degree of earnings manipulation

behaviors in those companies. In this research, only firms with positive discretionary accruals are investigated since they adapt aggressive accounting policy to make earnings upward and attract more investors. The evidence suggests that CEO duality is positively related with earnings management, which means Chinese firms that have the same person as CEO and chairman will do more earnings management. The second result is that board independence has no statistically significant connection with earnings management. Therefore, CEO duality as one of the corporate governance proxies can be used as a tool to indicate the level of earnings management. The separation of CEO and chairman can help balance the power of top leadership in Chinese firms.

This study makes following contributions to existing research. First, this research focus on Chinese companies that report three-year increasing earnings. These firms are highly attractive to investors so that the result of this paper can help investors make better investment decisions. Very few studies have been investigated the relationship between corporate governance and earnings management in firms with this criterion. Second, the specific study period of this research is 2012-2016, which is more recent than prior research. This paper presents the effect of corporate governance mechanisms on earnings manipulation during this specific period. Third, this study contributes to global corporate governance research that shows corporate governance mechanism reduces the possibility of earnings manipulations. Specifically, the sample of this research is Chinese listed companies. This paper can protect investors who plan to invest in China from inaccurate financial information and give them a better understanding of corporate governance and earnings management in Chinese market.

The remaining parts of the paper is as follows. Section 2 describes prior research, corporate governance and earnings management in China and develops the hypotheses. In Section 3, the research design of the study is provided. Section 4 describes the data used and the results of the research. Finally, Section 5 summarizes and discusses the findings.

II. PRIOR LITERATURES AND HYPOTHESES DEVELOPMENT

Healey and Wahlen (1998) defines earnings management as the change of firm's financial reports by managers to mislead stakeholder about company's economic performance. According to Xie et al. (2003), Managers have the power to change the time to recognize revenues gained and expenses incurred to achieve their goals. For instance, they can recognize next year's revenue in this year or record this year's expense in next year to increase net profit.

Managers do earnings management for different purposes. Equity market motivates managers to manage earnings to meet earnings benchmarks and smooth earnings growth (Graham et al., 2005). Similarly, Myers and Skinner (2007) indicate that, to meet the market's expectation, managers do earnings management to fulfill the financial analysts' forecasts. On the other hand, managers do earnings management to pursue their own interests, such as protecting their position (Wang and Campbell, 2012). Managers get direct compensation such as salary and bonus or indirect compensation, including job promotion and prestige, if companies meet benchmark (Xie et al., 2003).

Under Chinese background, the Chinese Securities Regulatory Commission (CSRC) sets strict rules for Chinese listed company to be qualified to issue more stock. To get additional financing by issuing more shares of stock, listed companies need to meet certain return on

equity requirement to get qualification (Qiao and Lu, 2007). According to Chen and Yuan (2004), Chinese listed firms do earnings management to meet the requirement of return on equity. Similarly, Haw et al. (2005) document earning manipulation behaviors by Chinese listed companies as response to regulations set by CSRC. Without violating the rules, local government help listed companies manage earnings by giving tax preference or providing project opportunities (Chen et al., 2008). In addition, Chinese companies manage earnings to avoid de-listing because there are some benefits provided by the regulators for controlling shareholders in listed companies (Liu and Lu, 2007). Therefore, Chinese listed firms have strong incentive to manage their earnings to meet certain criteria set by the government and the overall market environment in China creates opportunities for those companies to do earnings manipulations.

In addition, prior research about earnings management mainly detect three thresholds: First, to report a positive earning; second, to report higher earnings compared with last year; third, to meet or beat the analyst' forecast (Degeorge et al., 1999). However, according to Yang et al. (2011), analysts does not play an important role in Chinese companies and their forecasts have little influence on companies. Therefore, the main focus of this paper is firms with positive income increase rates for three years, which are defined as earnings beaters in this paper. These companies are highly attractive to investors because of their good performance.

Earnings management has various effects. Xie et al. (2003) indicate earnings management provides less information for investors to value firms or delivers false information to affect investors' decisions. Similarly, Young (2015) claims that earnings

management represents low quality financial reports that aim to mislead people who rely on them. In addition, firm value can be reduced by earnings management behaviors (Tangjitprom, 2013). According to Tangjitprom (2013), corporate governance mechanisms can mitigate the negative influence of earnings management behaviors.

Corporate governance includes mechanisms that affect the managers' decision when the separation of ownership and control exists (Larcker et al., 2007). Internal and external corporate governance mechanisms can reduce problems related with the separation of the financing and management functions (Young, 2015).

Corporate governance has both internal and external mechanism as mentioned by prior research. External corporate governance mechanisms include securities laws, the corporate control market and the managerial talent market and internal corporate mechanisms include board of directors, decision hierarchies, dividend payments, capital structure, executive compensation plans, and managerial equity ownership (Young, 2015). According to Gonzales and Garcia-Meca (2013), different characteristics that affect boards' capabilities to monitor managers include board size, board independence, CEO duality and the number of board meetings. Therefore, different internal and external proxies can be used to measure the degree of corporate governance.

In China, there are regulations related with corporate governance including following rules for listed companies: first, there is a requirement for one shareholder meeting per year; second, a minimum of 5 directors and a maximum of 19 directors are required for listed companies; third, two board meeting are required per year; fourth, a manager is allowed to be a director; fifth, board should have one-third independent directors (Jiang and Kim, 2014). In

January 7, 2002, “Code of Corporate Governance for Listed Companies in China” was issued in China and this official document guides Chinese listed companies to apply internal corporate governance controls. However, Chinese market has relatively low transparency of financial activities and information so that investors get little protection and corporate governance is a new concept (Yang et al., 2011). Also, although regulations about corporate governance have been released, the weak legal system still cannot enforce the law and the punishment of violating the law was light (Jiang and Kim, 2014). But Chinese government has realized the problem and are working on them to improve the legal system to protect investors.

Corporate governance mechanisms can influence companies in different ways. Firms with better corporate governance mechanisms have higher equity return (Gompers et al., 2003). There is a positive association between corporate governance mechanisms and the value of firms (Drobetz et al., 2004). In addition, good corporate governance practices enable firms to raise more capital and reduce capital costs, thereby having better performance and higher firm value (Shleifer and Wolfenzon, 2002). Also, corporate governance can reduce the level of earnings management (Man and Wong, 2013) Similarly, Nazir and Afza (2018) claim that corporate governance has play a positive role in reducing agency problems and affecting firm value.

Numerous studies have investigated the effect of corporate governance on earnings management. Corporate governance mechanisms can curb agency problems by forcing people in the management positions to act in the interest of investors (Young, 2015). Agency problems are also called principle-agent problems and are result from separation of control

and ownership. According to Gonzales and Garcia-Meca (2013), a firm with good corporate governance limits corruption and strengthens the implementation of rules and regulations, which leads to a reduction in earnings management. This is consistent with the conclusion in Shen and Chih (2013) that corporate governance constrains earnings management. For internal corporate governance mechanisms, higher board independence, greater board size, and higher audit committee independence can reduce the level the earnings management, thus strengthening confidence of investor (Xie et al., 2002). Moreover, board meeting frequency has a negative relationship with earnings management (Gulzar et al., 2011). For external corporate governance mechanisms, strict regulations environment in a country can reduce earnings management (Burgstahler and Eames, 2006)

On the other hand, some prior studies show corporate governance mechanisms cannot deter the influence of earnings management or there is no relationship between corporate governance and earnings management. Ghosh et al. (2010) indicate that the degree of earnings management does not change with different compositions of board. In addition, the number of board meeting is not necessarily useful in limiting earnings management (Lorca et al. 2011). According to Bradbury et al. (2006), there is no association between the size of the board and earnings manipulation behaviors. Moreover, Peasnell et al. (2000) fail to find any evidence to prove that audit committees can directly reduce the level of earnings management.

Prior research investigates the influence of corporate governance mechanisms on earnings manipulation behaviors in Chinese listed companies. Some research concludes that a significant relationship exists between some corporate governance mechanisms and earnings

manipulations. According to Gulzar et al. (2011), based on a sample of 1009 firms during 2002 to 2006, there are positive association between earnings management and different corporate governance proxies including CEO duality, frequency of board meetings, number of female directors and concentrated ownership. Using a sample of 379 listed technology firms over a seven-year in Taiwan, Chi et al. (2015) conclude that the proportion of independent directors is negatively related with earnings management and CEO duality is negatively associated with earnings manipulations in family firms. Qiao and Lu (2007) claim that firms with higher level of corporate governance have lower degree of earnings management based on financial information of Chinese listed companies during 1999-2005. In addition, firms with higher percentage of indirect directors, different CEO and chairman or financial expert on audit committee have lower degree of earnings management based on a sample of 266 companies on Shanghai stock exchange (Lo et al., 2009). On the other hand, some research conducted in China finds no significant connection between corporate governance and earnings manipulation. For instance, no evidence supports that there are relationships between board size, percentage of indirect directors and earnings management (Gulzar et al., 2011).

More related to the specific corporate governance proxy of this study, prior papers study the relationships between CEO duality and earnings management. Companies have CEO duality means that the same person serves as CEO and also the chairman on the board in the firm. Non-duality refers to independent CEO-chairman structure in a company. CEO is responsible to charge the administrative operation of a corporation and chairman's job is to supervise and assess the performance of executives (Chen &Liu, 2010). CEO duality can

cause power concentration on one person (Beasley, 1996). Firms that have CEO duality had poorer performance than their competitors and independent CEO-chairman structure is recommended to make sure firms have a balance power in board (Abdul Rahman and Haniffa, 2005). However, Dahya et al. (1996) hold the opposite opinion that CEO duality enable the CEO with good strategic plan to make firms have good performance without interference from board. This is consistent with the idea of Stewart (1991) who believe role duality can make firms focus on objectives and force the implementation of decisions.

As for the effect of CEO duality on earnings management, Sarker et al. (2006) conclude that there is a positive association between CEO duality and earnings management. This is consistent in Chen and Liu (2010) and Gulzar et al. (2011) that CEO duality is positively connected with earnings management behaviors. Therefore, the board has better monitoring ability to detect and constrain earnings management behaviors when different people serve as CEO and chairman. However, some research gets different results. CEO duality has no significant relation with opportunistic managerial behavior (Davidson et al., 2005). Similarly, Rahman and Ali (2007) and Garcia-Meca and Sanchez (2009) cannot find that CEO duality has effect on the level of earnings management.

The board of a firm has the responsibility to monitor management. Independent directors do not pursue their self-interest or get pressure to meet the expectation of market. Independent directors can act in the interest of stakeholders, thereby reducing earnings management and protecting stakeholders' rights. According to Cheng and Courtenay (2006), the level of board independence is closely related with financial information quality and firms with higher proportion of independent directors have better control of firms' development.

Beasley (1996) indicates that board independence is the key internal governance to monitor company.

The relationship between board independence and earnings manipulation is that higher degree of board independence leads to lower level of earnings management (Davidson et al. 2005). This is consistent in Bradbury et al. (2006) and Jaggi et al. (2009) that the proportion of independent directors is negatively associated with earnings manipulation behaviors. Some research concludes that an insignificant relationship exists between board independence and earnings management (Chtourou et al., 2001; Rahman and Ali, 2006) According to Garcia-Meca and Sanchez (2009), independent directors have weak effects on earnings management limitation in communitarian and emerging countries.

This research study the influence of CEO duality and percentage of independent directors on earnings management for firms with three-year increasing earning in China. Expected to be consistent with most prior research, the hypotheses in this paper are as follow:

H1: CEO duality is positively associated with earnings management behaviors for firms with three-year increasing earnings.

H2: Board independence has a negative relationship with earnings management for Chinese companies with a pattern of increasing earning.

III. RESEARCH DESIGN

To study the relationship between corporate governance, specifically CEO duality and the proportion of independent directors, and earnings management, this research uses the following model:

$$DA_{i,t} = \alpha_0 + \alpha_1 DUAL_{i,t} + \alpha_2 BIND_{i,t} + \alpha_3 ROA_{i,t} + \alpha_4 LEVE_{i,t} + \alpha_5 F_C_F_{i,t} + \alpha_6 SIZE_{i,t} \quad (1)$$

where *i* refers to the specific company and *t* refers to the specific year. *DA* refers to the degree of earnings management. *DUAL* refers to CEO duality, which means CEO and chairman is the same person. *BIND* refers to board independence. *ROA* refers to the return on asset ratio of the company. *LEVE* is leverage. *F_C_F* indicates free cash flow. *SIZE* refers to company size.

The degree of earnings management (*DA*) is the dependent variable of this paper. It refers to the positive discretionary accruals. Discretionary accruals are computed by the Modified Jones Model (1995) by Dechow et al to measure the degree of earnings manipulations. CEO duality and the percentage of independent directors are independent variables of the regression and also proxies of corporate governance mechanisms. CEO duality (*DUAL*) is a dummy variable equaling a value of one when the company has the same person serves as CEO and the chairman on the board and zero if no CEO duality exists. Board independence (*BIND*) refers to the percentage of independent directors and is calculated by the number of independent directors on the board over the total number of directors in the company.

There are four control variables in the above main regression model aiming to get a more accurate and reliable result, which are return on asset ratio, leverage, free cash flow and firm size. According to Machuga and Teitel (2007), managers have motivation to increase profit to attract more investors. In addition, there is a negative association between leverage level and earnings management (Yang et al., 2008) Similarly, Prencipe and Bar-Yosef (2011) conclude

that highly leveraged companies are more likely to manage earnings. Dechow et al. (1995) indicate that there is a significant negative association between discretionary accruals and cash flow. Banderlipe (2009) finds that larger firms have lower absolute discretionary. This is consistent with Jiang et al. (2008) that firms with bigger size tend to do less earnings management. Therefore, these four variables are related with the level of earnings management and thus are controlled for this research to get more accurate relationship between corporate governance and earnings management. Return on asset (ROA) is measured by the net income over total assets of the company. Leverage (LEVE) is computed by total assets divide total equity of the company. In addition, free cash flow (F_C_F) is measured by using the difference between operating and investing cash flows of the company divide total assets of that firm. Firm size (SIZE) is calculated by the log of total asset of the company.

This research uses discretionary accruals as the proxy of earnings management to measure the degree of earnings management. Modified Jones Model has been used by most earnings management research to measure earnings management (Koh 2003; Liu & Lu 2007). Following modified jones model (1995) to estimate discretionary accruals, this research measures the degree of earning management by the following:

$$\frac{TACC_{it}}{TA_{it-1}} = \beta_1 \left(\frac{1}{TA_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{TA_{it-1}} \right) + \varepsilon_{it} \quad (2)$$

where TACC is the total accruals; TA refers to the total assets at the start of year; ΔREV is the difference in revenues; ΔRec is the difference in accounts receivable; PPE refers to the gross property, plant and equipment in the firm; i and t are firm and year; β_1 , β_2 and β_3 are regression coefficients; and ε is the regression residual.

Given that it's hard to detect earning management directly, prior research focuses on total

accruals manipulation. Different from normal accruals, which cannot be changed by managers easily, the abnormal accruals represent interventions by managers in financial reporting process (Chi et al., 2015). Therefore, discretionary accruals can be used to measure the level of earnings management in one company. Models that most frequently used by researchers to separate normal accruals and abnormal accruals are Jones Model (1991) and Modified Jones Model (1995). Following most recent research that investigates the relationship between earnings management and corporate governance, this paper use Modified Jones Model to measure earnings management.

There is a difference between positive discretionary accruals and negative discretionary accruals. Firms with positive discretionary accruals apply aggressive accounting policy; however, companies that have negative discretionary accruals usually use conservative accounting policy (Ines, 2017). In the first situation, managers use aggressive accounting policy to inflate profit to hide real financial conditions of companies and mislead users of financial reports (Kamarudin et al. 2012). In the second case, managers in firms use conservative accounting policy to reduce the level of real profit, which has less bad influence on users of financial information (Ines, 2017). Therefore, this paper only focuses on companies with positive discretionary accruals since the sample firms are those report three-year increasing earnings. These firms try to increase their net income to attract more investors, which mislead shareholders.

There are two different methods to calculate total accruals, which is cash flow approach and balance approach. According to Collins and Hribar (2000), cash flow approach is better since it gets less influenced by the economic condition of a specific country. Therefore, the

total accrual component of earnings is calculated by the cash flow approach suggested by Collins and Hriber (2000) as following:

$$TACC_{it} = NI_{it} - OCF_{it} \quad (3)$$

Where TACC is the total accruals. NI refers to net income. OCF is operating cash flow. *i* and *t* are firm and year.

IV. SAMPLE AND RESULTS

To investigate the relationship between corporate governance and earnings management, this paper uses an initial sample of all available Chinese listed firms in China Stock Market and Accounting Research (CSMAR) during the period from 2012 to 2016. In this paper, all statistics about sample firms are based on A-shares, which is regular domestic stock shares in Chinese market. Another type of shares called B-shares were only bought and exchanged by foreigners before 2001 and were allowed to be bought by domestic investors recently. Modified Jones Model is used to calculate positive discretionary accruals in every industry to measure the degree of earnings manipulation behaviors by firms. Companies in the sample are those report three-year increasing earnings. Microsoft EXCEL is used to select firms defined as earnings beaters in this paper. In the ECXEL, firms with three-year positive earnings increasing rates are selected during 2012-2016. Also, the paper only focuses on firm with positive discretionary accruals, which means companies make earnings upward. This selection process yields an overall sample of 2373 Chinese firms. These firms are highly attractive to investors because of their good performance as shown by earnings increases for three years. The accounting data and corporate governance proxies, specifically CEO duality and independent directors, are obtained from CSMAR. Period 2012-2016 is the most recent

five-year range with complete and necessary information for this research.

Table 1 provides descriptive data for sample firms, including the positive value of discretionary accruals calculated by the modified Jones' model, CEO duality, the proportion of independent directors, return on asset, leverage, free cash flow and firm size. Table 1 shows that the positive residual value of modified Jones' model (DA) has a mean value of 0.068 and a standard deviation of 0.07. The minimum and maximum values of discretionary accruals (DA) are 0 and 0.495, respectively. The mean value of positive discretionary accruals (DA) is similar to the research by Gulzar et al. (2011), which has a mean value of 0.073 for discretionary accruals. CEO duality (DUAL) is a dummy variable equaling one when CEO in the company also acts as chairman on the board and has a value of zero if no duality exists. The average number of CEO duality (DUAL) is 0.279 and standard deviation is 0.449. This indicates that over 70% of companies in the sample have an independent CEO-chairman structure. The percentage of independent directors (BIND) has an average of 0.375 and a standard deviation of 0.057 with minimum and maximum values of 0.25 and 0.667, respectively. The mean of board independence (BIND) is consistent with the prior study by Jiang and Kim (2014), which shows the means of board independence of different years are around 0.35. Return on asset (ROA) has a mean value of 0.067 and a standard deviation of 0.449. The minimum value of return on asset (ROA) is -0.123 and the maximum value is 0.92. The average of leverage (LEVE) is 2.103 with a standard deviation of 1.766. Leverage (LEVE) has a minimum value of 0.357 and a maximum value of 18.994. Firm size (SIZE) and free cash flow (F_C_F) have mean values of 22.312 and 0.091, respectively. The standard deviation of firm size (SIZE) and free cash flow (F_C_F) are 1.4 and 0.13,

respectively. Firm size (SIZE) has a minimum value of 15.175 and a maximum value of 30.656. The minimum and maximum value of free cash flow (F_C_F) are -1.088 and 0.688, respectively.

Table1
Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
DA	2373	.068	.07	0	.495
DUAL	2373	.279	.449	0	1
BIND	2373	.375	.057	.25	.667
ROA	2373	.067	.047	-.123	.92
LEVE	2373	2.103	1.766	.357	18.994
SIZE	2373	22.312	1.4	15.729	30.656
F_C_F	2373	.091	.13	-1.088	.688

Notes: DA: positive discretionary accruals calculated by Modified Jones Model; DUAL: CEO duality; BIND refers to board independence; ROA: return on asset; LEVE: leverage; F_C_F: free cash flow; SIZE: firm size.

Table 2 provides the correlations among positive discretionary accruals, CEO duality, the proportions of independent directors, return on asset, leverage, firm size and free cash flow. According to general rule, an absolute correlation coefficient value of 0.7 or higher among two variables indicates a multicollinearity problem. There is no multicollinearity problem in the model since all correlation value are less than 0.7. According to table 2, there is a positive and significant correlation between earnings management behaviors and CEO duality (DUAL), which indicates firms that have the same person as CEO and the chairmen will have higher level of earning management. This is consistent with prior studies that CEO duality (DUAL) is positively associated with earnings management (Sarkar et al., 2006; Chen and Liu, 2010; Gulzar et al.,2011). As for board independence (BIND), it is positively associated with earnings manipulations behaviors. Therefore, companies with higher level of board independence tends to have higher degree of earnings management. Research by Gulzar et al.

(2011) has the similar result that the level of board independence and earnings manipulation have a positive association in correlation analysis. Return on asset (ROA) and leverage (LEVE) are positively associated with earnings management behaviors. Firm size (SIZE) and free cash flow (F_C_F) have negative relationship with the degree of earnings management behaviors. In control variables, leverage (LEVE) and firm size (SIZE) have significant relationship with opportunistic earnings manipulation behaviors as the coefficients are lower than 0.05.

Table 2
Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) DA	1.000						
(2) DUAL	0.031	1.000					
(3) BIND	0.023	0.127	1.000				
(4) ROA	0.110	0.036	0.011	1.000			
(5) LEVE	0.017	-0.110	-0.008	-0.262	1.000		
(6) SIZE	-0.070	-0.187	0.034	-0.223	0.623	1.000	
(7) F_C_F	-0.473	0.077	-0.004	0.197	-0.234	-0.055	1.000

Notes: DA: positive discretionary accruals calculated by Modified Jones Model; DUAL: CEO duality; BIND refers to board independence; ROA: return on asset; LEVE: leverage; F_C_F: free cash flow; SIZE: firm size.

Table 3 provides the robust result of the main regression model in this paper. The result indicates that there is a positive and significant relationship between CEO duality (DUAL) and opportunistic managerial behaviors ($\alpha=0.008$; P-value=0.004). This means independent CEO-chairman structure reduces the likelihood of opportunistic managerial behaviors. This result is similar to prior research that CEO duality is positively related with earnings management (Sarkar et al., 2006; Chen&Liu,2010 Gulzar et al.,2011). Therefore, the separation of CEO and chairman position can constrain earnings management in Chinese listed companies.

However, the evidence shows that the association between board independence and earnings management is not statistically significant ($\alpha=0.011$; P-value=0.624). This is consistent in Chtourou et al. (2001) and Rahman and Ali (2006) that there is an insignificant relationship between the percentage of independent directors and opportunistic managerial behaviors. Rahman and Ali (2006) claims that the insignificant result may because management has too much power so that the board cannot play a role in monitoring executives.

As for control variables, there is positive and significant relationship between return on asset (ROA) and earnings management ($\alpha=0.288$; P-value=0.000). Leverage (LEVE) and earnings manipulation have a negative relation ($\alpha=-0.003$, P-value=0.017). Firm size (Size) is negatively and significantly related with earnings management ($\alpha=-0.003$, P-value=0.027). In addition, free cash flow (F_C_F) is negatively associated with earnings management ($\alpha=-0.278$, P-value=0.000).

Table 3

Regression Results (Main model)	
VARIABLES	DA
DUAL	0.008*** (2.913)
BIND	0.011 (0.490)
ROA	0.288*** (5.766)
LEVE	-0.003** (-2.380)
SIZE	-0.003** (-2.219)
F_C_F	-0.278*** (-16.952)
Constant	0.143*** (5.066)
Observations	2,373
R-squared	0.290
Year FE	YES
Industry FE	YES
Adjusted R-squared	0.286

Note: ***/*** indicate significance at the 10% / 5% / 1%.

Notes: DA: positive discretionary accruals calculated by Modified Jones Model; DUAL: CEO duality; BIND refers to board independence; ROA: return on asset; LEVE: leverage; F_C_F: free cash flow; SIZE: firm size.

Table 4 and table 5 provide the results of the relationship between one independent variable and earnings management. In the regression result of table 4, the only independent variable is CEO duality (DUAL). Board independence (BIND) is the only variable in the regression result of table 5. According to table 4 and 5, the results of regression about the relationship between separate independent variables and earnings manipulation behaviors are similar to the main model. There is a positive and significant association between CEO duality (DUAL) and opportunistic managerial behaviors ($\alpha=0.009$; P-value=0.003). Board independence (BIND) is statistically insignificantly related with earnings management ($\alpha=0.020$; P-value=0.378). The relationships between control variables and earnings

management are similar with the main model. Return on asset (ROA) has a positive and significant relation with earnings management. Leverage (LEVE), firm size (SIZE) and free cash flow (F_C_F) have negative and significant associations with earnings manipulation behaviors.

Table4
Regression Result (CEO duality)

VARIABLES	DA
DUAL	0.009*** (2.999)
ROA	0.288*** (5.774)
LEVE	-0.003** (-2.399)
SIZE	-0.003** (-2.188)
F_C_F	-0.278*** (-16.957)
Constant	0.146*** (5.433)
Observations	2,373
R-squared	0.290
Year FE	YES
Industry FE	YES
Adjusted R-squared	0.286

Note: ***/*** indicate significance at the 10% / 5% / 1%.

DA: positive discretionary accruals calculated by Modified Jones Model; DUAL: CEO duality; ROA: return on asset; LEVE: leverage; F_C_F: free cash flow; SIZE: firm size.

Table 5

Regression Model (board independence)	
VARIABLES	DA
BIND	0.020 (0.882)
ROA	0.286*** (5.712)
LEVE	-0.003** (-2.281)
SIZE	-0.003*** (-2.783)
F_C_F	-0.276*** (-16.854)
Constant	0.155*** (5.510)
Observations	2,373
R-squared	0.287
Year FE	YES
Industry FE	YES
Adjusted R-squared	0.283

Note: ***/*** indicate significance at the 10% / 5% / 1%.

DA: positive discretionary accruals calculated by Modified Jones Model; BIND refers to board independence; ROA: return on asset; LEVE: leverage; F_C_F: free cash flow; SIZE: firm size.

5. Conclusion and Discussion

This paper examines the effect of CEO duality and the percentage of independent directors on earnings management in Chinese firms that report a pattern of increasing earnings. The result confirms H1 and shows that CEO duality is positively and significantly related with earnings management, indicating that firms will have a higher level of earnings management when CEO is also the chairman on the board. This is similar with prior studies that CEO duality has positive relationship with earnings management (Sarkar et al., 2006; Chen&Liu,2010 Gulzar et al.,2011). Therefore, the independence CEO and chairman structure can reduce opportunistic managerial behaviors in Chinese companies. CEO duality as one of the characteristics of corporate governance can act as an indicator of earnings

management.

However, this paper fails to find a statistically significant relationship between the percentage of independent directors and earnings management. This result is in line with the conclusion by Rahman and Ali (2006) that board independence has no statistically significant relationship with earnings management. Therefore, this paper fails to accept H2. The possible explanation of this insignificant result is as follow. First, according to Rahman and Ali (2006), this may because board cannot do its job effectively due to dominance of management. In addition, the board diligence is important rather than the percentage of indirect directors (Sarkar et al., 2006).

This paper contributes to the existing research about corporate governance mechanisms and earnings manipulations. Corporate governance mechanism, specifically CEO duality, can be used as an indicator of earnings management behaviors. This paper only study Chinese listed companies that have positive increasing earnings rate for three years. These companies are highly attractive to stakeholders. Therefore, investors who plan to invest on Chinese companies can make better decision based on the result of this paper.

The limitations of this research are as follow. First, both location and time period are limitations. This paper only focuses on Chinse listed companies and the period is only during 2012-2016. Second, there are measurement problems in earnings management by using Modified Jones Model. Further study can use different corporate government proxies, such as board size, frequency of board meeting and committee characteristics, to investigate the relationship. In addition, different measurement technique or model can be used to measure the degree of earnings management. Also, future research can choose to focus on different

type of companies such as private companies and family firms instead of listed companies in China.

APPENDIX

Variable	Description
DA	Positive discretionary accruals Proxy of earnings management calculated by Modified Jones Model.
DUAL	CEO duality CEO also holds a chairperson position. The CEO duality dummy equals to one when CEO is also the chairmen and zero otherwise.
BIND	Board independence Calculated by the number of independent directors over the total number of directors on board.
ROA	Return on asset Calculated by net income over total assets.
LEVE	Leverage Calculated by total assets over total equity.
F_C_F	Free cash flow Calculated by the difference between operating cash flow and investing cash flow over total assets.
SIZE	Firm size Calculated by log of total assets.

REFERENCES

- Abdul Rahman, R., and R. Haniffa, 2005, The effect of role duality on corporate performance in Malaysia, *Corporate Ownership and Control* Vol. 2 No. 2, pp. 40-7.
- Banderlipe, M. R., 2009, The impact of selected corporate governance variables in mitigating earnings management in the Philippines, *DLSU Business & Economics Review* Vol.19, no.1, pp17-27.
- Beasley, M. S., 1996, An empirical analysis of the relation between the board of directors and financial statement fraud, *The Accounting Review* 71: 443–465.
- Bradbury, M., Y. Mak, and S. Tan, 2006, Board characteristics, audit committee characteristics, and abnormal accruals, *Pacific Accounting Review* 18, 47–68.
- Burgstahler, D., and M. Eames, 2006, Management of earnings and analysts' forecasts to achieve zero and small positive earnings surprises, *Journal of Business Finance & Accounting* 33, pp. 633-652.
- Cheng, E., and S. Courtenay, 2006, Board composition, regulatory regime and voluntary disclosure, *International Journal of Accounting* 41, 262–289.
- Chen, K., and H. Yuan, 2004, Earnings management and capital resource allocation: evidence from China's accounting-based regulation of rights issue. *The Accounting Review* 74 (3), 645–665.
- Chen, K. Y., and Jo-L. Liu, 2010, Earnings management, CEO domination, and growth opportunities: Evidence from Taiwan, *International Journal of Public Information Systems* 58, 43–69.
- Chen, X., C. W. Lee, and J. Li, 2008, Government assisted earnings management in China, *Journal of Accounting and Public Policy* Vol. 27, Issue 3, pp 262-274.
- Chi, C. W., K. Hung, H. W. Cheng, and P. T. Lieu, 2015, Family firms and earnings management in Taiwan: Influence of corporate governance, *International Review of Economics and Finance* 36 (2015) 88–98.
- Chtourou, S.M., J. Bedard, and L. Courteau, 2001, Corporate Governance and Earnings Management. *Working Paper*, University Laval, Canada.
- Collins, D.W., and P. Hribar, 2000, Earnings-based and accrual-based market anomalies: One effect or two? *Journal of Accounting and Economics* 29 (1), pp. 101-123
- Dahya, J., A. A. Lonie, and D. M. Power, 1996, The case for separating the roles of chairman and CEO: An analysis of stock market and accounting data, *Corporate Governance-An International Review* 4, 71-77.
- Davidson, R., J. Goodwin-Stewart, and P. Kent, 2005, Internal governance structures and earnings management, *Accounting and Finance* 45: 241–267.
- Dechow, P. M., R. G. Sloan, and A. P. Sweeney, 1995, Detecting earnings management, *The Accounting Review* Vol.70, no.2, pp193-225.
- DeGeorge, F., J. Patel, and R. Zeckhauser, 1999. Earnings management to exceed thresholds, *Journal of Business* 72: 1–33.
- Drobetz, W., A. Schillhofer, and H. Zimmermann, 2004, Corporate governance and expected stock returns: Evidence from Germany, *European Financial Management* 10, 267–293.
- Ebrahim, A., 2007, Earnings management and board activity: An additional evidence, *Review of Accounting and Finance* 6(1), 42-58.
- Garcia-Meca, E., and J. P. Sanchez, 2009, Corporate governance and earnings management: a

- meta-Analysis, *Corporate Governance: An International Review* 17(5): 594–610.
- Ghosh, A., A. Marra, and D. Moon, 2010, Corporate boards, audit committees, and earnings management: Pre- and post-SOX evidence. *Journal of Business Finance and Accounting* 37, 1145-1176.
- Gompers, A., J. L. Ishii, and A. Metrick, 2003, Corporate Governance and Equity Prices, *Quarterly Journal of Economics* 118, 107–55.
- Gonzales, J. S., and E. Garcia-Meca, 2013, Does corporate governance influence earnings management in Latin American markets? *Journal of Business Ethics* Vol. 121, Issue 3, 419–440.
- Graham, J. R., C. R. Harvey, and S. Rajgopal, 2005, The economic implications of corporate financial reporting, *Journal of Accounting and Economics* 40: 3-73.
- Gulzar, M. A., P. Wuhan, and Z. Wang, 2011, Corporate governance characteristics and earnings management: Empirical evidence from Chinese listed firms, *International Journal of Accounting and Financial Reporting* Vol. 1, No. 1.
- Haw, I. M., D. Qi, W. Wu, and W. Zhang, 2005, Market consequences of earnings management in response to security regulations in China, *Contemporary Accounting Research* 22 (1), pp. 95-140.
- Healey, P. M., and J. M. Wahlen, 1999, A review of the earnings management literature and its implication for standard setting, *Accounting Horizons* 13: 365–383.
- Ines, M., 2017, The Effect of discretionary accruals on financial statement fraud: The case of the French companies, *International Research Journal of Finance and Economics* ISSN 1450-2887 Issue 161.
- Jaggi, B., S. Leung, and F. Gul, 2009, Family control, board independence and earnings management: Evidence based on Hong Kong firms, *Journal of Accounting and Public Policy* 28(4), 281–298.
- Jiang, F., and K. A. Kim, 2014, Corporate governance in China: A modern perspective, *Journal of Corporate Finance* Vol. 32, Pages 190-216.
- Jiang, W., P. Lee, and A. Anandarajan, 2008, The association between corporate governance and earnings quality: Further evidence using the GOV-score, *Advances in Accounting incorporating Advances in International Accounting* Vol.24, pp191-201.
- Kamarudin, K., W. Ismail, and W. Mustapha, 2012, Aggressive financial reporting and corporate fraud, *Procedia-Social and Behavioral Sciences* Vol. 65, pp.638-643.
- Koh, P. S., 2003, On the association between institutional ownership and aggressive corporate earnings management in Australia, *The British Accounting Review* Vol.35, pp105-128.
- Larcker, D., S. Richardson, and I. Tuna, 2007, Corporate governance, accounting outcomes, and organizational performance, *The Accounting Review* Vol. 82, 963–1008.
- Liu, Q., and Z. Lu, 2007, Corporate governance and earnings management in the Chinese listed companies: A tunnelling perspective, *Journal of Corporate Finance* Vol.13, pp881-906.
- Lo, A. W. Y., R. M. K. Wong, and M. Firtu, 2009, Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China, *Journal of Corporate Finance* Volume 16, Issue 2, Pages 225-235.
- Lorca, C., J. Sanchez-Ballesta, and E. Garcia-Meca, 2011, Board effectiveness and cost of debt, *Journal of Business Ethics* 100, 613–631.

- Machuga, S., and K. Teitel, 2007, The effects of the Mexican Corporate Governance Code on quality of earnings and its components. *Journal of International Accounting Research* 6(1), 37–55.
- Man, C., and B. Wong, 2013, Corporate governance and earnings management: A survey of literature, *The Journal of Applied Business Research* Volume 29, Number 2.
- Myers, L., and D. Skinner, 2007, Earnings momentum and earnings management, *Journal of Accounting, Auditing & Finance* Volume 22, issue 2, pp 249-284.
- Nazir, M. S., and T. Afza, 2018, Does managerial behavior of managing earnings mitigate the relationship between corporate governance and firm value? Evidence from an emerging market, *Future Business Journal* 4 139-156.
- Peasnell, K.V., P. F. Pope, and S. Young, 2000, Accrual management to meet earnings targets: UK evidence pre-and post-cadbury, *British Accounting Review* Vol. 32 No. 4, pp. 415-445.
- Prencipe, A., and S. Bar-Yosef, 2011, Corporate governance and earning management in family-controlled companies. *Journal of Accounting, Auditing and Finance* 26, 199–227.
- Qiao L., and Z. Lu, 2007, Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective, *Journal of Corporate Finance* 13 881–906.
- Rahman, R. A., and F. H. M. Ali, 2006, Board, audit committee, culture and earnings management: Malaysian evidence, *Managerial Auditing Journal* Vol. 21 No. 7. pp. 783-804.
- Sarkar, J., S. Sarkar, and K. Sen, 2006, Board of directors and opportunistic earnings management: Evidence from India, *Journal of Accounting, Auditing, & Finance* Volume: 23 issue: 4.
- Shen, C., and H. Chih, 2007, Earnings management and corporate governance in Asia's emerging markets, *Corporate Governance an International Review* 15(5):999-1021.
- Shleifer, A., and D. Wolfenzon, 2002, Investor protection and equity markets, *Journal of Financial Economics* Vol. 66, pp. 3-27.
- Stewart, R., 1991, Chairman and Chief Executives: An Exploration of Their Relationships, *Journal of Management Studies* 28, 511.
- Tangjitprom, N., 2013, The role of corporate governance in reducing the negative effect of earnings management, *International Journal of Economics and Finance* Vol. 5(3). PP. 213-220.
- Wang, Y., and M. Campbell, 2012, Corporate governance, earnings management, and IFRS: empirical evidence from Chinese domestically listed companies, *Advances in Accounting, incorporating Advances in International Accounting* 28 189–192.
- Xie, B., and W. N. Davidson III, and P. J. Dadalt, 2003, Earnings management and corporate governance: the role of the board and the audit committee, *Journal of Corporate Finance* 9295–316.
- Yang, C., H. Lai, and B. Tan, 2008, Managerial ownership structure and earnings management, *Journal of Financial Reporting & Accounting* Vol.6, no. 1, pp35-53.
- Yang, Y., S. J. Chen, B. X. Lin, and L. Wu, 2011, The frequency and magnitude of earnings management in China, *Applied Economics* Volume 40, 2008 - Issue 24.
- Young, S., 2015, Earnings management and corporate governance, *Wiley Online Library*,

https://doi.org/10.1002/9781118785317.weom_010077.