
Title: Board Characteristics and Earnings Management in Vietnam

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Abstract

This study aims to examine the impact of board characteristics on earnings management of listed companies on Vietnamese stock market. This research has employed a sample of Vietnamese listed companies in the period from 2016 to 2020 listed on Vietnam stock market. The study uses discretionary accruals (DA) as a proxy for the earnings management. The adjusted Jones model of Kothari et al. (2005) was applied to recognize DA of these companies. The study also employs fixed effect model through using panel data framework in order to control for time-variant endogeneity. The study found that board size has a positive relationship with earnings manipulation. Board independence and board share ownership are negatively associated to earnings manipulation. However, the study figured out a negative association between CEO duality and earnings management along with a positive association between board financial expertise and earnings management, which are not supported in our research hypotheses. The findings are important to policy-makers and investors by providing them a broaden viewpoints of producing well-defined policies, using useful information to evaluate the firm's performance, and monitoring the earnings management actions of managers.

Key words: *Board of directors, board characteristic, earnings management, Vietnamese listed firms.*

Introduction

1.1 Research Background and Research Motivation

In current years, developing markets have got much academic consideration because of the development of their economy and weighty engagement within the worldwide economy (Hoskisson *et al.*, 2000). In spite of rapid growths, the precision and quality of financial reporting information conducted by numerous companies in those nations continue to be a doubt for users and scholars (Wang and Yung, 2011; Li, Ho Park and Shuji Bao, 2014; Switzer, Tu and Wang, 2018). Over the past few decades, several accounting scandals divulge the unethical behaviors and underline significance of reliability and clarity of financial information (Lang and Lundholm, 2000). Managers have abused the flexibility of accounting policy to manage earnings (Parfet, 2000). Thus, earnings management can be seen as a vital concern in the emerging markets since it may influence corporate partnerships and foreign investment in the markets (Chen, Elder and Hsieh, 2007). For instance, managers sometimes

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manipulate accounting figures on financial statements to lower their risks and encourage the users of financial statements (Healy and Wahlen, 1999). For this reason, it is advised that using earnings management might negatively influence the ones who use the financial information.

Earnings management has resulted from corporate failures which become a significant concern for investors. In particular, boards of directors are responsible for decision-making. Conversely, there are some reasons why decisions made by managers no longer maximize the shareholders' wealth and result in corporate failures. In this case, agency theory is mentioned (Jensen and Meckling, 1976). Also, Argüden (2010) showed that the quality of corporate governance should be determined by board composition, the decision process, and firm's organizational structure. The board of directors is considered as the heart of the firm with the authorities to set strategies, structure and supervise the whole firm (Pudjiastuti and Mardiyah, 2007).

Therefore, corporate governance has been significantly applied to constrain earnings management (Kent, Routledge and Stewart, 2010). A high level of corporate governance may lessen earnings manipulation level; prevent unethical behaviors and frauds in financial statements (González and García-Meca, 2014). Some scholars also proved that high corporate governance could diminish the magnitude of firm bankruptcies and have a positive impact on shareholders' welfare and further related parties (Fich and Shivdasani, 2006; Cheng, Aerts and Jorissen, 2010; González and García-Meca, 2014).

Furthermore, a large number of scholars concentrates on testing the impacts of corporate governance and board characteristics on earnings manipulation in the developed marketplaces such as U.K and U.S. (for example: Teoh, Welch, and Wong (1998); Peasnell, Pope, and Young (2005); Xie, Davidson III, and DaDalt (2003); Park and Shin (2004); Klein (2002); Erickson and Wang (1999); Bédard, Chtourou, and Courteau (2004). There is a scarcity of empirical and comprehensive study on this association in developing markets (Wang and Yung, 2011). It is more interesting that there is a big difference in some test results among the research in different developing countries, depending on various factors including the year of data, industry, and sample size. For example, in Malaysia, Saleh, Iskandar, & Rahmat (2005) found that board size is negatively correlated to earnings manipulation, demonstrating that larger scope of board will reduce earnings management level. In the subsequent year, Abdul Rahman & Haneem Mohamed Ali (2006) proved a positive association between earnings manipulation and board size, with an insignificant correlation between management of earnings and other corporate governance factors. In China and India, some scholars discovered a positive association between earnings manipulation and CEO duality (Sarkar, Sarkar and Sen, 2008; Gulzar, 2011), while earnings management has been found not to be positively influenced by CEO duality and indicated that there are dual positions of owners in 85% of Mexican listed companies (Castañeda, 2000).

1.2 Research Objective

Some abovementioned findings showed the impacts of board characteristics and business governance on earnings manipulation in several developing countries. Although this approach is interesting, no one to the best of our knowledge has done the research on this issue in Vietnam circumstance except for two recent pieces of research. They are likely to be inadequate since one paid attention to research on the correlation between earnings management and state ownership (Hoang, Indra, & Ma, 2014), Hoang, Indra, & Ma (2015) also conducted the other study which concentrated on the influence of board diversity on earnings manipulation using listed company samples in Vietnam. Thoroughly differ from developed markets in Western countries; Vietnam is an emerging market in the early stage of growth. According to prior studies, firms in developing countries tend to have more earnings management than those in developed countries (Li, Selover and Stein, 2011; Li, Ho Park and Shuji Bao, 2014). Therefore, Vietnam is an appealing context to accurately inspect this issue. This is the first research, as far as we know, exploring the effect of board characteristics on earnings manipulation using Vietnamese listed firm sample.

1.3. Contribution

The research gives contributions to earnings management literature in following aspects. It gives considerable insight into earnings manipulation practice which is influenced by boards in Vietnamese context. Due to the importance of boards in a firm who are familiar with the firm's financial system, it will be easier for them to manipulate earnings works. It will further shed light on potent impacts of board characteristics on earnings manipulation in Vietnamese listed firms. The research is beneficial to provide a broad insight for policy-makers to make the appropriate policy and corporate governance mechanism. Moreover, investors might know how to evaluate the performance of business instead of using conventional channel, particularly financial statements.

1.4 Research Outline

The overall structure of the research forms five chapters, involving this introductory chapter. Chapter 2 begins by laying out an overview of the theoretical background and hypothesis development. Chapter 3 is concerned with the sample and methodology applied for this research. Chapter 4 describes the study results. The final chapter gives the conclusion, limitation, and scope for further research into this area.

CHAPTER TWO

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Earnings Management

Earnings management occurs when manipulation actions of managers influence the financial reporting process. Currently, investors are likely to judge earnings as the highly useful information on the financial statement to deliberate about their decision-making on the firm's prospect. From another point of view, a company's stock price even higher or lower is supposed to be susceptible to the manipulation of earnings (Guthrie and Sokolowsky, 2010). Xie et al. (2003) claimed that executive compensation would be measured according to how the boards achieve the earnings target. Therefore, there are such chances that managers manage the financial reporting information to mislead both insiders and outsiders about the firm's performance. Nevertheless, it is claimed that earnings manipulation is harmful to the firms' value due to reducing the quality of financial reports (Jiraporn *et al.*, 2008). Furthermore, earnings management would potentially lessen shareholders' prosperity (Park and Shin, 2004).

A growing body of literature has studied earnings management in many financial circumstances. Ronen & Yaari (2008) draw a distinction between "black" and "white" earnings management. They proposed that using cheats to reduce or manipulate the clarity of financial information is called "black" earnings management. Whereas, "white" earnings management is described as by exploiting the flexible standards in accounting and interfering in accounting measures without breaking principles and rules. Though there have been some advantages according to earnings management, this study mainly focuses on the drawbacks of earnings manipulation. Specifically, behaviors of boards are the central cores associated with firms' earnings management (Park & Shin 2004; Rahman & Ali 2006; Saleh, Iskandar, & Rahmat 2005; Xie, Davidson III, & DaDalt 2003).

Earnings management can be categorized into two types: real earnings management and accrual-based earnings management (Gunny, 2010). Following Dechow & Skinner (2000), accrual-based earnings management demonstrates the context in which managers biasedly perform earnings manipulation within generally accepted accounting principles (GAAP) accounting alternatives. It is supposed that accruals are adopted to prove the legitimacy of daily accounting transactions; however, the accounting standards also create essential loopholes for managerial discretions. For instance, these discretions such as the timing of revenues, allowance for irrecoverable debt, impairment of fixed assets, changing

depreciation methods, etc. might lead to the lack of transparency of business transactions. Despite distorting the transparency of economic transactions via these approaches, the managers are not directly in charge of business operations.

In contrast, Roychowdhury (2006) described real activities manipulation as “departures from normal operational practices, motivated by managers’ desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations.” Managers undertake real earnings manipulation by adjusting the structuring or timing of actual events with the intention of influencing on the results of the accounting system. Managers might manipulate earnings via real activities, for example, reducing discretionary expenses, overproduction, and revenues manipulation. Particularly, it might be possible to boost revenues within a short time by enhancing sales promotions, providing excessive discounts, and offering loose credit policies. Besides, more recent evidence highlights that actual earnings manipulation is similarly supported by decreasing the maintenance, advertising, research & development (R&D) expenditures in order to yield earnings (Graham, Harvey and Rajgopal, 2005). Thus, under the inspection of auditors or financial analysts, to examine real earnings management is also quite difficult. This study will concentrate on using discretionary accruals as a proxy of earnings management.

2.2 Board Characteristics

Nowadays, there is the existence of agency problem between shareholders and managers in the corporate forms of organizations. Individual shareholders have no resources and incentives to ensure that managers are performing with the purpose of maximizing shareholders’ interest. To monitor the agency problem, Denis (2001) recommends that “Corporate governance encompasses the set of institutional and market mechanisms that induce self-interested managers to maximize the value of the residual cash flows of the firm on behalf of its shareholders.”

A substantial amount of research papers has been published on the relationship between earnings manipulation and board characteristics. These studies have been mostly conducted by using the database of U.S and U.K companies. Dechow, Sloan, & Sweeney (1996) investigated the reasons and consequences of earnings management by analyzing the firms regarding the enforcement actions by the SEC and found that earnings management is caused by the weakness of management. Thus, it is argued that boards controlled by insiders have more tendencies to manipulate the reported earnings.

Peasnell, Pope, & Young (2000) investigated a negative relationship between board independence and discretionary accruals by employing the sample of U.K companies. Xie et al. (2003) similarly found that greater percentage of outside directors might mitigate earnings management level.

This research continues to test the influences of board characteristics (including board size, board independence, CEO duality, board share ownership and board financial expertise) on earnings management in Vietnamese market.

2.2.1 Board Size

Prior researchers have measured board size as the quantity of board members within the organizational structure (Klein, 2002; Saleh, Iskandar and Rahmat, 2005; Pudjiastuti and Mardiyah, 2007; Gaur, Bathula and Singh, 2015; Hoang, Indra and Ma, 2015). Boards further play an essential role in monitoring and consulting (Piepenbrink and Gaur, 2013; Singh and Delios, 2017). However, the research results on the impacts of board size are different in the previous study. In the groundbreaking paper, it is proposed that executive boards should be small as it seems to be hard for directors to objectively and freely take part in business governance. It is also argued that the larger boards will become biased and uncontrollable which causes the failure of management functions (Jensen, 1993). Specifically, as self-serving behavior, opportunistic managers tend to manipulate earnings for reaching

the earnings benchmark so as to upgrade their remuneration. Some scholars concluded that board size is negatively associated with firm's performance (Cheng, 2008; Black & Kim, 2012). They proved that small boards are successful in carrying out the value for shareholders, yet larger boards fail to function effectively. It can be questioned whether large boards might reduce earnings quality instead of generating value for shareholders.

Regarding discovering the earnings manipulation practices in Hong Kong, it has been showed that board size is negatively related to earnings quality (Ching, Firth and Rui, 2006). They also examined that smaller boards fulfill better monitor and performance than large boards. Rahman & Ali (2006) had research on the Malaysian market and implied that when board size is small, directors pay more attention to address the issues that might occur. On the contrary, larger boards might have an obstacle in controlling and even arise the interest conflicts amongst them. Therefore, this could lead to the disadvantages of management procedure within a firm.

An opposite viewpoint is that the higher number of board members could produce a better performance in controlling (Loderer and Peyer, 2002). Firms with large boards are better at monitoring and detecting any manipulations of earnings thanks to a great variety of skills, experience and technical expertise such as accounting or financing backgrounds (Pfeffer, 1972; Klein, 2002). Furthermore, some research discovered that large board size is negatively associated discretionary accruals. The larger the size of board, the lower the level of discretionary accruals (Xie, Davidson III and DaDalt, 2003; Ebrahim, 2007). As abovementioned, larger boards could be possible to create efficiency in monitoring the companies such as lowering the level of earnings management.

Some previous studies have examined the positive relationship between board size and earnings manipulation (Rahman & Ali, 2006; Ching, Firth, & Rui, 2006). Conversely, other prior research provided evidence for the important role of board size in lessening earnings management. According to combined theoretical and empirical viewpoints, this study forecasts a significant relationship between earnings management and board size without defining the direction of coefficient. The hypothesis that will be tested is that:

Hypothesis 1: Board size is significantly associated with earnings management.

2.2.2 Board Independence

Finkelstein, Hambrick, & Cannella (2009) described board independence as outside directors who do not have material or pecuniary relation with the firms but sitting fees. From previous agency viewpoints, the board fails to monitor effectively without their independence in managing (Dechow et al., 1996; Beasley, 1996), thus, independent directors will have an efficient performance in controlling and managing the business (Fama and Jensen, 1983a). Regularly, the board must consist of inside directors who do serve as senior executive managers because of their management expertise. However, inside directors are potentially disadvantageous due to their conflicts of interest. Therefore, it is required to have the presence of outside directors in order to guarantee the shareholder's wealth (Peasnell, Pope, & Young, 2003).

Kiel & Nicholson (2003) found an important role of independent directors on protecting shareholders from the opportunistic behavior of managers. Several attempts have been made to investigate the relation between earnings manipulation and board independence. This relationship was first demonstrated experimentally by Klein (2002). In his seminal study, he found a negative relationship between abnormal accruals and board independence by using U.S database. Likewise, Xie et al. (2003) highlight the negative and significant association between outside directors with corporate experience and discretionary accrual in which implies that outside directors with corporate experience are likely to better monitor the firms. To determine the positive effects of outside directors on the U.K listed firm's management, Peasnell et al. (2005) compared the lower level of pre-managed earnings than the prior

year's reported earnings. Jaggi, Leung, & Gul (2009) determined a negative and significant relationship between earnings manipulation and board independence under the condition of Hong Kong.

Using the sample of largest firms included in the S&P 100 Index, it is suggested that the greater percentage of board independence results in the lower discretionary accruals level (Cornett, Marcus and Tehranian, 2008). Similarly, Kent et al. (2010) examines the association between board independence and discretionary accruals with the negative direction of coefficient.

Notwithstanding, according to Raheja (2005), independent directors hold less information than inside directors. While being given access to information management, the management role of outside directors might be hindered due to the shortage of necessary information. For instance, knowing that outside directors have obstacles to obtain the information for monitoring, the managers could grudge sharing the needed material with them (Harris & Raviv, 2006; Adams & Ferreira, 2007). In line with these issues, this study would like to test whether the participation of independent directors is possible to lower earning management in the Vietnamese setting. Hence, this study proposes the following:

Hypothesis 2: Board independence is significantly and negatively associated with earnings management.

2.2.3 CEO Duality

Previous research has indicated that there is a strong need of separation between chairperson and the CEO positions for the improvement of the effectiveness and efficiency of corporate governance. It is unsuitable to implement and monitor the business operation by the same individual (Fama and Jensen, 1983b). Thus, the effectiveness of the management role of chairperson will decrease when the chairperson simultaneously hold the function of CEO (Firth, Fung and Rui, 2007). It is also concluded that the CEO position can have a negative influence on reported accounting information. Furthermore, duality role also shrinks the level of board independence and its capability to manage the managers efficiently (Holtz and Sarlo Neto, 2014). Related to the market value of the firm, Brown & Caylor (2006) prove that it will be higher when the roles of chairman and CEO are assigned to different persons.

There are two opposite perspectives on the issue of CEO duality including agency perspective and stewardship perspective (Rahman and Haniffa, 2005). According to the proponent of agency theory, the chairman position must be separated from CEO position because it is vital to have a cross-checking amongst them and prevent the possibility of discretion behavior in making plans by CEO. If one person takes the role of two primary positions, they will tend to seek their personal interests by using the over-ambitious strategies. For this reason, the separation of main positions within a company will create more efficient management (Zulkafli and Samad, 2005). On the contrary, the stewardship theory proposes that CEO duality might better the decision-making process. Moreover, it will be more advantageous as the CEO can lead the board to implement the strategies to attain the firm's objectives without much restriction from the board.

Current studies have been yielded the mixed results on the association between role duality and management of earnings. Klein (2002) stated that CEO duality significantly and positively influences on earnings management. In fact, it is a potential chance for CEO to abuse the management power to easily manipulate the reported earnings of the firm. The same individual holding both chairman and CEO roles is likely to have more motives to distort the earnings (Davidson, Goodwin-Stewart and Kent, 2005). However, some scholars fail to discover the support on the relationship between earnings manipulation and CEO duality (Kao & Chen, 2004; Xie et al., 2003; Abdul Rahman & Haneem Mohamed Ali, 2006; Davidson et al., 2005). Using the sample of 226 listed firms in China, Lo, Wong, & Firth (2010) analyze that the firms without role duality provide the higher quality of financial reporting. Based on this discussion, the following hypothesis is proposed:

Hypothesis 3: CEO duality is significantly and positively associated with earnings management.

2.2.4 Board Share Ownership

There have been existing conflicts between shareholders and board of directors due to the split between ownership and control. According to Mak & Li (2001), board ownership might have an influence on the congruence between board of management and shareholders' interests. Shares owned by the board members give them more motivations to increase their performance (Brickley, Lease and Smith Jr, 1988). It is proposed that "outside owners should be encouraged to hold larger stakes and to take a more active and constructive role in companies. Ownerships should be expanded to include directors, managers, employees, and even customers and suppliers" (Porter, 1992). Board directors' decisions will strongly affect their own wealth when they hold a considerable amount of shares (Booth, Cornett and Tehranian, 2002). Some scholars pointed out that the larger percentage of shares held by members on board leads to a better decision-making since they will make attempts to maximize shareholders' wealth as well as their own wealth (Jensen and Meckling, 1976). Hence, board ownership plays an essential role in managing agency problems along with improving firms' governance.

Using the sample of listed firms in Japan, several researchers have investigated that an increase in board ownership will lead to a good performance of the firm (Z. Chen, Cheung, Stouraitis, & Wong, 2005; Morck, Nakamura, & Shivdasani, 2000; Hiraki, Inoue, Ito, Kuroki, & Masuda, 2003). These scholars also stated that when the board ownership goes up, the interests between shareholders and management are optimally aligned. Likewise, some studies prove that there is a significant and positive relationship between board ownership and the Japanese manufacturing firms' values (Hiraki *et al.*, 2003). Besides, Akhtaruddin & Haron (2010) found that the higher level of board ownership leads to the lower level of voluntary disclosure. Further, the higher level of board ownership could decrease information asymmetry between investors and firm management, which results in higher corporate governance within the firm.

The abovementioned researches concentrate on the positive associations among corporate governance, firm performance and board ownership. However, the good corporate governance effectively constrains the earnings management behaviors. As this study mainly concentrates on the association between earnings manipulation and board ownership, the following hypothesis is suggested:

Hypothesis 4: A high level of board ownership is significantly and negatively associated to earnings management.

2.2.5 Board Financial Expertise

The education and experience of board directors are important components in measuring the efficiency of boards' management functions. Hambrick & Mason (1984) consider director education degree as a tool to relatively measure the level of director's knowledge, expertise, skills base and cognitive orientation. Prior studies demonstrated that the high level of director's education presents wider viewpoints and better understanding (Post, Rahman and Rubow, 2011), hence resulting in a higher capability to develop innovations and adopt new ideas (Wally and Baum, 1994). According to Van der Walt, Ingley, Shergill, & Townsend (2006), more diverse boards generate larger breadth of knowledge and necessary corporate perspectives in order to widely discuss and examine the solutions for addressing complicated issues.

It is proposed that the directors with high-tenure experience have fewer tendencies to engage in earnings manipulation (Alzoubi and Selamat, 2012). Further, they are more expected to require the high level of audit quality (Carcello *et al.*, 2002). Accordingly, these scholars discovered that the higher level of financial expertise mitigates earnings manipulation behaviors. Additionally, companies monitored by the directors who have accounting, financial or economics knowledge might prevent earnings manipulation

(Xie, Davidson III and DaDalt, 2003). Likewise, Agrawal & Chadha (2005) indicated that as the directors within the firms are financially educated, earnings restatement is less likely to occur.

As abovementioned studies, the financial expertise of board directors are effective in managing the firms. Moreover, it will be more beneficial to the directors since they could have a better understanding about financial reporting issues. Therefore, the following hypothesis is formed as:

Hypothesis 5: Board financial expertise is significantly and negatively associated with earnings management.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Data Collection and Research Methodology

3.1.1 Data Collection

The research sample including Vietnamese Listed Firms was collected from Thomson Reuters Database during the period between 2013 and 2017. This study has eliminated financial institutions (finance, bank and insurance firms) because of the specificity of their accounting regulations. In addition, this study also eliminated missing values and employed winsorization to remove extreme values. Finally, the sampled used for the research includes 593 firms, consisting of 2,086 observations.

3.1.2 Research Methodology

At the beginning, the research has to select the highly suitable regression method because the observed data is panel data with both spatial dimensions (593 firms) and time (2013-2017). There are two common methods to model panel data including fixed effect model (FEM) and random effect model (REM). First, the research performs Pooled OLS and FEM regression, based on F test to determine which model is more suitable. The research then performs Pooled OLS and REM regression, based on Breusch - Pagan test to choose which model is more appropriate. Finally, the research uses Hausman specification test to determine the most appropriate analysis technique between FEM and REM (Hausman, 1978). In case the Hausman test result shows the rejection of null hypothesis, the fixed effects are employed to use; else the effects are considered to be random.

Such a measure regarding the association between earnings management and board characteristics might confront the endogeneity problem. This possibly will occur once the association being examined is influenced by additional variables (which are not comprised in the regression function). In such situations, the effect of the unobserved variable is captured by the residual term, and thus, it becomes correlated with the dependent variable, particularly discretionary accruals, thereby biasing the estimations. Hence, research method must be created in order to be able to explore the influence of likely endogenous variable and estimation is unbiased and well-organized.

To ensure that the results obtained from the regression method are meant to analyze, the study performs the tests to verify the defects of the model which are heteroscedasticity, autocorrelation and collinearity test. If the model has any defects, the study will use other suitable methods to perform multivariate regression. Data is analyzed on STATA statistical software 13.

3.2 Empirical Model

This research employs the subsequent empirical model to examine the research hypotheses. The model is related to earnings management (EM) including discretionary accruals (DA), five board characteristics, and five control variables.

$$DA_{i,t} = \alpha_0 + \alpha_1 BS_{i,t} + \alpha_2 BL_{i,t} + \alpha_3 CD_{i,t} + \alpha_4 BSO_{i,t} + \alpha_5 BFE_{i,t} + \alpha_6 Controls_{i,t} + \varepsilon_{i,t}$$

3.3 Measurement of Dependent Variables

The previous studies figured out that earnings management is described as the deduction between Total Accruals (TA) and Non-discretionary Accruals (NDA) occurred within the business (Jones, 1991; Dechow, Sloan and Sweeney, 1996). Kothari, Leone, & Wasley (2005) have further developed the models of Jones and Dechow et al. by way of including firm performance (ROA). By applying the same method implemented by Swastika (2013), this research also employs model of Kothari et al., (2005) to examine earnings management as follow:

First, this study applies a cash-flow method to measure total accruals ($TA_{i,t}$) (Hribar and Collins, 2002; Davidson, Goodwin-Stewart and Kent, 2005; Habbash, Sindezingue and Salama, 2013). This approach encompasses subtracting the operating cash flow carried out from statement of cash flows from the amount of net income (before extraordinary items) from the income statement as follow:

$$TA_{i,t} = \text{Net income} - \text{Cash flow from operation.}$$

Where $TA_{i,t}$: Total accruals of firm i in year t

Second, the modified Jones model seeks to measure the total discretionary accruals using the following variables, as described by Kothari et al. (2005):

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \alpha_4 ROA_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

Where:

$TA_{i,t}$: Firm i's total discretionary accrual in year t;

$A_{i,t-1}$: Firm i's total assets in year t-1;

$\Delta REV_{i,t}$: Firm i's changes in net revenues in year t;

$\Delta REC_{i,t}$: Change in account receivables from year t-1 to year t;

$PPE_{i,t}$: Net property, plant and equipment scaled by assets;

$ROA_{i,t}$: Return on total assets for firm i in year t;

$\varepsilon_{i,t}$: Residuals for firm i in year t.

Where $\alpha_1, \alpha_2, \alpha_3$ and α_4 are coefficients estimated from ordinary least squares (OLS) for all firms in our sample at time t .

With the estimation of regression parameters $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$, this study also estimates the non-discretionary accruals (NDA) of the firms.

$$\frac{NDA_{i,t}}{A_{i,t-1}} = \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \alpha_4 ROA_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

According to preceding analyses (Chen, Elder and Hsieh, 2007; Habbash, Sindezingue and Salama, 2013; Mostafa, 2017), having estimated non-discretionary accruals (NDA) from equation (2), firm i 's discretionary accruals (DA) value in year t is computed as following equation:

$$DA_{i,t} = TA_{i,t} - NDA_{i,t} \quad (3)$$

At the different point of time, managers have motives to inflate earnings ($DA > 0$) or deflate earnings ($DA < 0$) within the period, thus, DA value can be positive or negative depending on each company.

3.3 Measurement of Independent Variables

Table 3.1 Measure of independent variables

Variables	Code	Measure
Board size	BS	Number of members on board.
Board independence	BI	Number of independent members scaled by the number of board directors.
CEO duality	CD	Dummy variable that takes the value 1 if CEO also holds the position of chairman, otherwise 0.
Board share ownership	BSO	The percentage of shares owned by the directors on the board.
Board financial expertise	BFE	Proportion of finance, accounting or economics experts compared to board members.

Source: Original Study

3.4 Control Variables

In accordance with prior research (Xie et al., 2003; Park & Shin, 2004; Francis et al., 2015; Hoang et al., 2015), this study also comprises control variables to inspect the effects of other elements on earnings manipulation.

Table 3.2 Measurement of control variables

Variables	Code	Measure
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Firm size	FS	The natural logarithm of total assets at the end of fiscal year.
Return on assets	ROA	Total net income divided by total assets.
Leverage	LEV	A firm's total debt divided by its total assets to compare assets to debt.
Loss	LOS	Dummy variable that takes value of 1 if there is a loss in firm's income statement, otherwise 0.
Audit quality	AQ	Dummy variable is presented and equal to 1 if firm is audited by one of Big 4 audit companies (E&Y, KPMG, Deloitte, PwC), otherwise 0.

Source: Original Study

CHAPTER FOUR

RESEARCH RESULTS

4.1 Descriptive Analysis

Table 4.1 shows the descriptive statistics for the explanatory variables. Preferred to the descriptive results, the dependent variable, discretionary accruals which is the proxy for earnings management has the mean value of -5.78 and standard deviation of 241.69.

According to the analysis of dependent variables, board size (BS) consists of approximately eight members with a mean (standard deviation) of 8.04 (1.42) and ranges from a minimum of three members to a maximum of 14 members on board. This is literally complied with the criteria of Vietnamese Labor Code compelling that the range of board size is between 5 to 11 members. The minimum and maximum values of board independence (BI) are 0% and 50% respectively with the mean value of 46.67%. Analysis of table 4.1 presents that 47.41% of firms have the CEO duality (CD). The mean value of board share ownership (BSO) is 19.56% with the standard deviation of 9.7% and varies from 0.001% to 73.29%. In addition, board financial expertise (BFE) is comprised of approximately one member on board which has the financial background, with the range from zero to seven members.

In relation to control variables, the firm size (FS) defined as logarithm of total asset is 8.85 which is smaller than the value of global firm size of 15.58. Also, the mean value of ROA ratio of Vietnamese firms are 5.36% which is approximately lower than global ratio shown in the research of (González and García-Meca, 2014; Ali and Zhang, 2015). The average of leverage ratio (LEV) is 48.91%. Unfortunately, there are almost 50% of firms which have suffered from losses over the last 5 years. The average firm year observation audited by Big 4 auditors is 82.79%, which shows a large number of Vietnamese firms are likely to believe in using Big 4 audit service.

Table 4.1 Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
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DA	-5.78	241.69	-2,139.46	5,223.8
BS	8.04	1.41	3	14
BI (%)	46.67	7.43	0	50
CD (%)	47.41	49.94	0	1
BSO	19.56	9.7	0.001	73.29
FS	8.85	0.66	7.18	11.33
ROA (%)	5.36	8.61	-175,89	78.63
LEV (%)	48.91	22.34	0.6	97.06
LOS (%)	52.83	49.93	0	1
AQ (%)	82.79	37.76	0	1

Source: Original Study

4.2 Regression Analysis

After performing the descriptive analysis of the variables, this study applies the regression analysis to test the impact of board characteristics (independent variables) on earnings management proxied by discretionary accruals (DA) (dependent variable). Nevertheless, to identify whether fixed effect or random effect is the most appropriate estimation model for data collection, this study performs the Hausman test.

As shown in Table 4.2, the result of the Hausman test indicates that $\text{Prob} > \chi^2 = 0.000$ which is less than 0.05 (5%). Therefore, the fixed effect model is the superior for the study sample.

Table 4.2 Hausman test

	Coefficients			
	(b)	(B)	(b-B)	Sqrt(diag(V _b -V _B))
	fem	rem	Difference	S.E.
BS	122.9552	126.5926	-3.637336	.8312333
BI	-249.8262	-292.225	42.39881	8.573623
CD	-67.67042	-86.07026	18.39984	2.152137
BSO	-7.685728	-6.802539	-.8831887	.1635322
BFE	117.845	126.6287	-8.783695	1.083299
FS	16.55322	-3.02259	19.57581	22.99459

ROA	22.99459	248.4768	19.04291	15.48657
LEV	-15.10315	12.35705	-27.4602	28.61829
LOS	90.11878	102.2438	-12.12507	1.972382
AQ	8.970987	20.66889	-11.6979	2.083718
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic $\text{chi2}(10) = (b-B)'[(V_b - V_B)^{-1}](b-B)$ $= 168.22$ $\text{Prob} > \text{chi2} = 0.0000$				

Source: Original Study

If the data sample is modeled via FEM, it likewise monitors the time-invariant endogeneity. To further analysis, this study has to test heteroscedasticity problem because of using diverse data sample to conduct this research (Baltagi, 2008). Heteroscedasticity is analyzed by using the Modified Wald test for groupwise heteroscedasticity in the residuals of a fixed effect regression model (Rilstone, 2002).

H0: $\sigma(i)^2 = \sigma^2$ for all i

$\text{chi2}(593) = 2.7e+39$

$\text{Prob} > \text{chi2} = 0.0000$

This result found that the p-value is less than level of significance 0.05 or 5%. It indicates that the variances are not constant, which means that there is a heteroscedasticity problem.

The following analysis is to demonstrate the autocorrelation phenomenon in panel data by conducting Wooldridge test. The result shows as follow:

H0: no first-order autocorrelation

$F(1, 494) = 0.377$

$\text{Prob} > F = 0.5393$

Since p-value is greater than the level of significance 0.05 or 5%, the null hypothesis is accepted. Thus, there is no autocorrelation in the panel data.

As shown in Table 4.3, the result shows that there is no collinearity diagnostics as VIFs of all variables are less than 10 (Gujarati and Porter, 2009).

Table 4.3 Collinearity diagnostics test

Variable	VIF	SQRT VIF	Tolerance	R-Square
DA	2.75	1.66	0.3633	0.6367
BS	9.33	3.05	0.1072	0.8928
BI	1.96	1.40	0.5091	0.4909
CD	3.32	1.82	0.3015	0.6985
BSO	5.40	2.32	0.1852	0.8148
BFE	2.88	1.70	0.3471	0.6529
FS	1.14	1.07	0.8741	0.1259
ROA	1.27	1.13	0.7872	0.2128
LEV	6.74	2.60	0.1485	0.8515
LOS	2.15	1.47	0.4657	0.5343
AQ	1.14	1.07	0.8749	0.1251
Mean VIF	3.46			

Source: Original Study

After examining the defects of the research model, this study performs fixed effect model (FEM) associated with the Cluster-Robust estimation to avoid the heteroscedasticity problem (White, 1980). The regression results of fixed effect model are shown in Table 4.4.

Table 4.4 Regression result and Cluster-Robust estimation

Fixed-effects (within) regression				Number of obs = 2086	
Group variable: Firm				Number of groups = 593	
R-sq: within = 0.7282				Obs per group: min = 1	
between = 0.4660				avg = 3.5	
overall = 0.6258				max = 4	
corr(u_i, Xb) = 0.0812				F(15,1487) = 178.88	
				Prob > F = 0.0000	
				(Std. Err. adjusted for 593 clusters in Firm)	
DA	Coef.	Robust	t	$P > t $	[95% Conf. Interval]

		Std. Err.				
BS	122.9552	7.858663	15.65	0.000	107.521	138.3895
BI	-249.8262	54.54613	-4.58	0.000	-356.9536	-142.6987
CD	-67.67042	16.78965	-4.03	0.000	-100.6449	-34.69589
BSO	-7.685728	1.40299	-5.48	0.000	-10.44117	-4.930284
BFE	117.845	9.045027	13.03	0.000	100.0807	135.6092
FS	16.55322	69.29416	2.59	0.811	64.91759	470.1219
ROA	267.5197	103.159	-0.17	0.010	-184.7775	154.5712
LEV	-15.10315	86.39314	5.59	0.861	48.43543	121.8021
LOS	90.11878	16.13222	0.87	0.000	-11.37528	29.31726
AQ	8.970987	10.35972	0.24	0.387	-119.5391	152.6455
_cons	-1047.698	612.206	-1.71	0.088	-2250.057	154.6624
sigma_u	205.68172					
sigma_e	105.4267					
rho	0.79193488	(fraction of variance due to u_i)				

Source: Original Study

The results shown in Table 4.4 first indicate that board size positively affect discretionary accruals at the 10% level of significance, which means larger board size will result in the greater level of earnings management. This finding is consistent with earlier research which have predicted a positive relation between earnings management and board size (Jensen, 1993, Black & Kim, 2012; Cheng, 2008). It is concluded that a multi-member board will lack the unity; therefore, it will not be effective in the monitoring activities of executives. Therefore, H1 is supported.

Second, this study finds a significant and negative relationship between earnings management and board independence at the 10% level of significance, as found in various previous researches (Klein, 2002; Xie, Davidson III and DaDalt, 2003; Peasnell, Pope and Young, 2005; Ali and Zhang, 2015), which highlights the important role of independent directors on board in limiting the likelihood of earnings manipulation. It is suggested that board independence is an effective factor to deter the earnings management actions. Therefore, H2 is supported.

Third, this study finds that there is a significant and negative association between CEO duality and earnings management. The result failed to discover any supports of hypothesis 3 proposing that the CEO duality leads to an increase in earnings management. This finding is a contradiction to previous researches which suggested a significant and positive relationship between CEO duality and earnings manipulation (Gulzar, 2011; Klein, 2002; Davidson et al., 2005). As the result, H3 is not supported.

Fourth, this study finds a negative and significant relationship between board share ownership and earnings manipulation. In consistent with the findings of other scholars, the board directors will consider their decisions carefully when they hold a considerable amount of shares within the firms (Booth, Cornett and Tehranian, 2002). The larger the shares owned by board directors, the better their decision-making is as the board directors will make efforts to protect and maximize shareholders' wealth as well as theirs (Jensen and Meckling, 1976). Therefore, H4 is supported.

Fifth, this study finds that board financial expertise is significantly and positively related to earnings manipulation in line with prior study (Metawee, 2013), which means the greater financial experts the board has, the greater the level of earnings management is. Therefore, H5 is not supported.

Regarding to the control variables of the research model, the firm performance ratio (ROA) is realized to be significantly and positively related to earnings manipulation at 5% level of significance. Additionally, it is concluded that loss is significantly and positively related to earnings management at 5% level of significance. Based on this result, the study proposes that earnings manipulation enlarges when firm performance enlarges. It can be explained that managers have more tendency to inflate the earnings when the firms face the loss situation. By inflating the earnings, the firm's performance seems to be better according to the viewpoint of outsiders. This finding is proved by Daghsmi, Zouhayer, & Mbarek (2016) suggesting the significant and positive relation between discretionary accruals and firm performance.

Apart from the significance of ROA and loss variables, this study does not discover any significant relationships between earnings manipulation and firm size, leverage ratio and audit quality (as shown in Table 4.4).

CHAPTER FIVE:

CONCLUSIONS AND SUGGESTIONS

5.1 Findings and Implications

5.1.1 Findings

This research investigates whether the board characteristics (board size, board independence, CEO duality, board share ownership and board financial expertise) are associated with earnings management practice in Vietnamese listed firms. The results indicate that board size and board financial expertise have a positive association with earnings management while board independence, CEO duality and board share ownership are related to earnings manipulation.

Therefore, the larger board size fails to manage the earnings manipulation practice of the managers which is in consistent with the prior findings (Jensen, 1993; Black & Kim, 2012; Cheng, 2008). Board financial expertise is realized to be ineffective in monitoring earnings management. This is in contrast to previous research in other settings (Xie, Davidson III and DaDalt, 2003; Agrawal and Chadha, 2005), however concurs with another research (Metawee, 2013) conducted by using evidence from Egypt. The results also present that board independence can be considered as an effective mechanism for controlling earnings management practice of managers. The finding is that firms with greater independent directors will lead to the lower chance of earnings manipulation incidences, which is in accordance with preceding investigation (Ali & Zhang, 2015; Klein, 2002; Xie et al., 2003; Ken V Peasnell et al., 2005). In the other words, this finding highlights the important role of independent directors in mitigating earnings manipulation. Additionally, the results suggest that CEO duality negatively and significantly affects earnings management while prior studies stated a positive relation (Klein, 2002; Davidson, Goodwin-Stewart and Kent, 2005; Gulzar, 2011). There might be a difference among researches performed in different settings. In the situation of Vietnamese firms, CEO duality

might not be a powerful instrument to increase earnings manipulation. Board share ownership is further found to be an effective monitor of earnings manipulation. This is in accordance with Booth et al. (2002); Jensen & Meckling (1976). It is concluded that board directors will make more attempts to constrain the earnings manipulation actions when they hold a considerable amount of shares. It is also inconsistent with the research of Metawee (2013), board financial expertise has a significant and positive relation with earnings management. It might be because the greater number of financial experts on board causes some conflicts and lack of the unison in management. This will be a chance for the managers to manipulate the earnings of the firms.

5.1.2 Implications

The findings of this research provide the stakeholders and policy-makers a critical insight into the important need of effective boards in focusing on their roles qualitatively rather than quantitatively. Additionally, the research helps to demonstrate that the managers can manipulate the earnings in order to optimize their own benefits, for example, increasing in salary and bonus, in the businesses where ROA and loss is high. Therefore, it is vital to have a strong need for good regulatory mechanism and policy regarding board composition as board of director is the pillar of corporate governance. Enhancing the effectiveness of board is associated to enhancing the scope of corporate governance as well as the quality of earnings in emerging market, particularly Vietnam where there is a weak protection of minority shareholders. Further, the business needs to have a broader view and particular analysis for each business so as to build the business operation more effectively, consistent with industry characteristics, business size, capital structure as well as the performance of the business.

5.2 Limitations and Recommendations

5.2.1 Limitations

This research is subject to following limitations. First, the research is implemented to determine the association between board characteristics and earnings manipulation in Vietnamese listed companies. Using the sample of 704 firms is moderately comparable to other researches, however, failing to make comparisons with developed countries to access the generality of the analysis. Second, the research only considers accrual-based earnings management and ignores real earnings management. Hence, it might cause the underestimations of the impacts of board characteristics on earnings management.

5.2.2 Recommendations

This research has thrown up many questions in need of further investigation. More broadly, the research is also needed to extend to international settings when data is available. This will provide a comparable insight about how board characteristics impacts on earnings management, between emerging countries, specifically Vietnam, and developed countries. In addition, future research should include other kinds of earnings management in order to enlarge our knowledge of this issue.

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