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The impact of board of directors and ownership characteristics on earnings management of publicly listed firms in Vietnam

Student: Huy Tuan Nguyen (s1537350)

Supervisor: Prof. Dr. Rezaul Kabir

Second supervisor: Dr. S.A.G. Essa

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ABSTRACT

This study investigates the extent whether board of directors and ownership characteristics are related to earnings management in Vietnamese context. Based on sample of 570 non financial listed firms from 2010 to 2014, I find a non-linear association between state ownership and earnings management. Furthermore, firms with higher proportion of foreign ownership are more likely to constrain the manipulative practices exercised by managers. Additional test on interaction between corporate governance and leverage indicate CEO holding the position of chairman is more likely to distort financial reports in a highly geared firm. Higher managerial ownership marginally reduces earnings manipulation in firms subject to considerate debt level. On the other hand, board with higher percentage of non-executive directors and concentrated ownership might not have any effect on earnings management. The association between board size and earnings management is inconclusive due to the fact that the constraining effect of board size on earnings management is only evident in the model with discretionary accruals rather than accruals quality. Finally, I do not find that the revision of corporate governance code in 2012 improves board monitoring function.

Contents

Chapter 1: Introduction

1.1 Background

Many empirical studies prove that stock prices are volatile relative to the reported earnings disclosed by the mangers of listed firms (Guthrie and Sokolowsky, 2010). Accordingly, both the earnings-driven sentiment of the shareholders and the pressure of the recent economic downturn particularly create incentives for corporate executives to employ earnings management. A series of accounting scandals over recent decades unveil the ethical failures and underscore the importance of transparency and credibility of the financial information (Lang and Lundholm, 2000). Corporate governance mechanisms have been given significant credits for constraining earnings manipulation by several management scholars (Kent et al., 2010). Higher quality of corporate governance not only enhances growth of the company but also provides such a robust toolkit to prevent management from committing unethical conducts and fraud engagement. According to Argüden (2010), effective organizational structure, decision processes, and the composition of the board of directors especially determine the quality of the corporate governance. Considered as the heart of the company by Pudjiastuti and Mardiyah (2007), the board of directors is granted with authority to oversee the management, set strategies and structure for the entire firm. In addition to board, corporate ownership also attracts significant attention from researchers such as Siregar and Utama (2008) who underline the effectiveness of ownership structure to facilitate the monitoring mechanisms in firms.

Multitude of research already documents the effectiveness of the role of the board of directors and ownership structure in improving the integrity of financial information and mitigating the likelihood managers exercise discretions to manage earnings (Klein et al., 2002; Kent et al., 2010; Ali and Zhang, 2015; Badolato et al., 2015; Agrawal and Cooper, 2016). However, the empirical findings addressing the extent board and ownership characteristics impact earnings management are seemingly incomplete and inclusive (Park and Shin, 2004). On one hand, some studies confirm that the compositions of board can create significant impacts on the reliability of accounting information (Warfield, Wild and Wild, 1995; Klein, 2002; Rahman and Ali, 2006). On the other hand, anecdotal evidences raise certain concerns about the effectiveness of board which usually overlooks its actively monitoring function or even suffers from the domination of management in some cases (Park and Shin; 2004). Specifically, previous studies such as Davidson et al. (2005), Peasnell et al. (2005) Ali

and Zhang (2015) conclude that higher degree of board independence creates obstacles for managers to engage in earnings manipulation. Shehu (2011) nevertheless claims that corporate governance in term of independent directors advocates on higher opportunistic accounting. Regarding to ownership structure, state ownership is more likely to advocate on earnings management through tunneling as conventional belief (Aharony et al., 2010; Yang et al., 2012). Other studies such as Li (2010), Wang and Campell (2012) argue that companies with high state ownership are less likely to get involved in fraudulent earnings management in Chinese setting.

The abovementioned controversial findings concerning the impact board and ownership characteristics have on earnings management might be attributed to the institutional differences between countries (Ahrens et al., 2011). Studies in developed countries where there is more transparency in the accounting disclosures, extensive ownership dispersion and higher protection for minority investors somehow result in the divergent findings with those in developing countries otherwise. To the best of my knowledge, I can scarcely find any other studies to examine this matter in Vietnam context except for one recent study conducted by Hoang et al. (2014) whose research is seemingly insufficient since only focusing on the sole relationship between state ownership and earnings management. Unlike fully developed market in many other Western countries, Vietnam capital market is still in the early phase of development. Though sometimes assumed to be the reflection of Chinese economy in smaller scale, I believe Vietnam still has certain distinct variation from China. Wang and Dung (2011) recommend that further study should consider the effect of corporate governance among transition economies. After experiencing a bubble since its inception in 2006 and severe flop in 2011, Vietnam capital market has primarily undergone several adjustments in terms of monetary and fiscal policies from the government to reflect its intrinsic value. These practices whereby underscore the cruciality of financial information in accurately and fully reflecting the firms' values, improving the efficiency of the market. Thus, corporate governance should receive relatively more attraction due to its effectiveness in reducing earnings management and facilitating the transparency of financial statements. However, a recent survey conducted by the IFC (International Finance Corporation) in cooperation with Vietnam's State Securities Commission (SSC) in 2011 confirms that most Vietnamese companies are still associated with merely insufficient grasps of corporate governance. A typical market characterized by low minority protection and under developed legal enforcement (World Bank, 2006a, 2012), Vietnam will be such an interesting case to

specifically examine the effects board of directors' characteristics and ownership structure exert on discretionary behaviors of managers.

1.2 Objective

The intriguing questions related to corporate governance mechanisms as well as limited empirical literature concerning the extent board and ownership characteristics are related to earnings management specifically in Vietnam market trigger my interest to conduct this research. As such this research is virtually tailored to examining the impacts of board attributes and ownership structure on earnings management in Vietnam. Hence, the research question is formulated as follows:

Are the characteristics of board and ownership effective in mitigating earnings management in Vietnamese listed firms?

1.3 Findings

Based on the sample of 570 non financial firms from 2010 to 2014, my study examines the association between corporate governance mechanisms and earnings management. Alternative definitions for both independent and control variables together with several proxies for earnings management, specifically accruals quality and discretionary accruals, are employed to facilitate the robustness of the test. The empirical results show a non-linear relationship between state ownership and earnings management. In addition, foreign ownership is found to alleviate the opportunistic behavior of managers to inflate earnings. The study also documents the effectiveness of the number of board members (board size) to mitigate income-increasing accruals. However, the effect of board size is more sensitive to the model with discretionary accruals than accruals quality. Additional test on interaction between corporate governance and leverage indicates CEO holding the position of chairman is more likely to distort financial reports in a highly geared firm. In contrast, higher managerial ownership marginally reduces earnings manipulation in firms subject to considerate debt level.

1.4 Contribution

There is limited literature cultivating the topic of corporate governance mechanisms in Vietnamese context (Duc and Thuy, 2013). Some recent studies in Vietnamese context such as Duc and Thuy,

(2013), Vo and Tri (2014), etc. give greater attention to the relationship between corporate governance and firm performance without concerning about earnings management factor. This thesis is one of the first few studies to examine the impacts of board attributes and ownership structure on discretionary behaviors of managers in Vietnam. This study will contribute to the extant literature in the following ways. First, it extends the limited literature of corporate governance mechanisms in developing markets, specifically Vietnam where weak protection of minority shareholders and perverted legal enforcement are present. The empirical findings in a particular country may not yield the same meaning as applicable to another one. This study facilitates intensive and comprehensive knowledge of corporate governance issues between institutional settings. Second, it sheds light on the potential impacts of board attributes such as board size, CEO duality and independent directors together with ownership structure, specifically ownership concentration, managerial ownership, foreign and state ownership, on opportunistic accrual earnings in Vietnamese listed firms. This study finally provides practical implications for regulators, policy makers, practitioners and potential investors. As such the study can give certain insights into board and ownership characteristics in Vietnamese firms, which the regulators or policy makers can design corresponding policies of corporate governance to accommodate. Potential investors might have an opportunity to refer to another source of meaningful information beside the conventional channel that is financial reports.

1.5 Structure

The structure of the thesis is organized into following chapters. Chapter 1 provides the overview of key concept, objective, contribution and structure in respective order. Chapter 2 takes into account the theories related to the corporate governance and earnings management. Based on that premise, the defined attributes of board and ownership are specifically addressed in terms of their theoretical and empirical evidence. In chapter 3, corporate governance principles and its benefits are conveyed to exactly reflect institutional setting of corporate governance in Vietnam. Chapter 4 formulates relevant hypotheses followed by all reasoning and empirical evidences discussed previously. Chapter 5 presents the methodology for investigation, data sampling and variable descriptions. Different models and their specifications are also mentioned to justify its validity in this research. Chapter 6 summaries all empirical findings. Discussions about the test results, conclusion together with limitations and recommendation for further research are stated in the final chapter.

Chapter 2: Literature review

2.1 Earnings management

"Earnings" basically is another way to call "profits" of the company. As common knowledge, most current or prospective investors are supposed to observe earnings as one of the most effective accounting information on the income statement to reflect the financial strength of the firm so that they are able to make relatively basic evaluations on its future prospects. In other words, the stock price of a particular firm whether lower or higher is much likely to be susceptible to the volatility of earnings (Guthrie and Sokolowsky, 2010). It is widely acknowledged that executive compensation such as bonuses, stock options, etc. is typically decided based on the corporate performance relative to earnings benchmarks (Xie et al., 2003). Thus earnings are such an important source of information that triggers managerial motives of manipulation, increasing the information asymmetry between insiders and outsiders.

As an important research topic, earnings management has typically been examined in a variety of financial contexts. Accordingly, earnings management is defined in a large number of alternative ways. Schipper (1989, p. 92) particularly proposes definition of earnings management as "*a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain*". Healy (1999, p. 368) asserts that "*earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers*". Based on the abovementioned statements, earnings management is apparently characterized as a negative and opportunistic mechanism when managers abusively resort to greater room of reporting discretion to distort the financial information and thereby serve their own objectives. Indeed, Earnings management is "*the practice … [of reaching] a desired number instead of pursuing some sort of protocol to produce a number that gets reported without regard to what some analysts predict that you will report*." (Miller and Bahnson, 2002, p. 184). Based on other theoretical definitions, Ronen and Yaari (2008, p. 42) suggest that "*black*" earnings management "i*s the practice of using tricks to misrepresent or reduce transparency of the financial reports*".

Whereas the opportunistic earnings management is described as negative and detrimental practice, many other studies find evidences that earnings management can also be an efficient approach for managers to exactly reflect underlying economic substance of the transactions (Palepu et al., 2013). Ronen and Yaari (2008) underscore the advantages associated with "*white*" (efficient) earnings management to improve the materiality and transparency of financial statements. As such, Ronen and Yaari (2008, p.42) define "*white*" earnings management as "*taking advantage of the flexibility in the choice of accounting treatment to signal the manager's private information on future cash flows*". Subramanyam (1996) claims that discretionary accruals are likely to dictate more informative information by addressing the future cash flow and profitability of the firm. The similar findings are also found in the studies of both Gul et al. (2000) and Krishnan (2003). Trueman and Titman (1988) discuss that earnings management can enable stock price not to either jump or slump to such excessive margins, which is more favorable for the market.

Although there are some advantages associated with efficient earnings management, the research will basically be concerned about the dark side of earnings management, entailing opportunistic behavior of managers who introduce noise and bias to accounting reporting through discretionary accruals. In addition, because the corporate governance has long been considered to constrain earnings manipulation practices according to Kent et al. (2010), Badolato et al. (2014), Gonzalez and Meca (2014), Ali and Zhang (2015), the effects of corporate governance mechanisms on earnings distortion will therefore be examined.

Incentives of earnings management

Healy (1999), Palepu et al. (2013) discuss certain incentives managers have when exercising accounting distortions:

Capital market motivation. The information asymmetry between managers and outsiders will fuel the managers' motivations to bias the financial figures so as to influence the investors' perceptions, even temporarily. For example, managers are more likely to deflate the earnings before receiving options to reduce share prices and inflate earnings before selling stock options otherwise. Managers also manage earnings aggressively around the seasoned equity issuance to boost share price, raising short term additional funds.

Contracting motivation. Managers make accounting decisions to influence debt covenants for credit objectives, and their own compensation which closely ties to the firm performance. Furthermore, the dynamics of competition and stakeholder's interests are also critical issues to influence the outcome of financial reports. For example, managers have incentives to inflate the accounting figures in terms of working capital ratios, interest coverage, ROA, etc. to satisfy debt agreements. Confronting attempts of hostile takeovers, managers will make intensive accounting decisions to report a dismal bottom-line, making firm unattractive to the acquirer and securing their executive positions.

Regulatory motivation which managers necessarily consider to protect the firm from intervention or scrutiny of regulatory body and risks of aggressive tax treatment. For example: discretionary accounting treatment can be employed to undermine competition laws, import tariff and avoid tax obligations. In fact, some firms basically use related business transactions between parent company and subsidiary or among subsidiaries to be entitled to tax obligations in a designated country with lower corporate income tax brackets. The tax ruling of almost €13bn issued by European Commission for Apple which benefits from irrationally generous tax in Ireland is a typical example.

Categories of earnings management

Managers exercise the practice of earnings manipulation through two major patterns, specifically discretionary accruals management and real activities earnings management (Gunny, 2010). Accruals-based earnings management indicates the scenario in which management biasedly exercises their discretion and judgment with accounting choices in order to attain their self-serving objectives (Xi et al., 2003). Accruals are supposedly adopted to reflect the legitimate business transactions taking place daily in firms but the accounting rules basically leave significant room for managerial discretion. For example, their discretion involving impairment of non-current assets, timing of revenue, allowances for bad debt, etc. can distort the original meaning of underlying economic transactions. Specifically, managers can understate the corporate asset by recording finance leases as operating leases or overstate the asset side of balance sheet by capitalizing R&D expenses. Although this approach will technically distort the intrinsic manifestation of business transactions via misleading accounting records, the managers will not directly interfere with the corporate operations.

Conversely, real activities management is defined 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*." (Roychowdhury, 2006). The managers can employ real activities management by structuring real transactions and/or changing their timing. Managers exercise their manipulation via real activities such as sales manipulation, overproduction, and reduction of discretionary expenditures. (Roychowdhury, 2006). For example, managers might boost sales in the short term by offering loose credit terms or excessive discount for customers. Real earnings management is technically assessed as much difficult to identify if under scrutiny of auditors or analysts. However, the method will undermine the corporate performance in the long run due to the direct intervention of management to corporate operations (Zang et al. 2012).

Of two above-mentioned earnings manipulation strategies, discretionary accruals are particularly being used in such larger amount of literature to determine earnings manipulation in comparison with real earnings management (Zang et al., 2012). Moreover, a lot of extant literature documents the significant effects of board attributes and ownership structure on accrual-based earnings management for example Klein (2002), Park and Shin (2004), Guthrie and Sokolowsky (2010), Kent et al. (2010) , Chen et al. (2011), Badolato et al. (2014), especially in emerging markets Lo et al. (2010), Gonzalez and Meca (2014), Ali and Zhang (2015). Therefore, I will adopt discretionary accruals as the proxy for earnings management in this study.

2.2 Corporate governance

The term "corporate governance" is receiving mounted attention from management scholars and researchers. A substantial amount of unethical accounting frauds and financial scandals rallying in global financial market recently underscores more effective role of corporate governance. Furthermore, many studies verify eligibility of corporate governance to discipline, control, monitor management, reduce transactional cost and leverage corporate performance. There are distinctly diverse definitions of corporate governance used in many studies. Claessens and Yurtoglu (2013) suggested classifying the definitions into "narrow" and "broad" cluster to better comprehend systematic conceptual framework associated with corporate governance. The concepts featured as "narrow" category focus on the internal mechanisms of corporate governance framework which encompass attributes of board of directors and ownership structure in monitoring executives and

yielding favorable benefits for stakeholders. In narrow perspective of corporate governance, Cadbury Committee (1992, p. 4) releases a definition of corporate governance as" *the system by companies are directed and controlled."*

As a paradigm regarding to narrow cluster, Shleifer and Vishny (1997, p. 737) set the definition as followed:

"*Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment".*

Allen (2005, p. 2) caters to the viewers two separate thinking of corporate governance specifically as followed:

"Narrow view: corporate governance is concerned with ensuring the firm is run in the interests of shareholders."

"Broad view: Corporate governance is concerned with ensuring that firms are run in such a way that society's resources are used efficiently."

Likewise, OECD proposes such a broader and even more detailed definition (the IFC, 2010; p. 50). *"Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined."*

The broader definition encompasses not only internal corporate governance but also external mechanisms. It enlarges the scope of corporate governance to the extent that the firm should be liable to whole parties it has connections by aligning interests of investors with all external entities as well as controlling and deterring expropriation of managers. Tapping into stakeholder perspective and institutional contexts, the definition provides a fundamental concept for further analyzing corporate governance in different countries with diverse regulatory requirements and practices.

Regardless of whichever definitions shaping up the corporate governance, Gillan (2006) grouped corporate governance mechanisms into two categories: internal and external factors which are

corresponding to two sides of the balance sheet model (as hereafter in the fig. 2.1 cited from Ross et al. (2005)). The left side reflects the extent to which internal governance comprising board of directors and management interacts with each other in terms of operations, investments and risk management. The right side indicates the external governance arising from the corporate need for raising fund. According to Gillan (2006), the simple balance sheet model of corporate governance is somewhat insufficient and incomplete to depict the various interrelationships governing the firm, failing to incorporate the role of stakeholders in the firm operation. This study only focuses on the simple perspectives of corporate governance mechanisms including capital structure, board and ownership characteristics though.

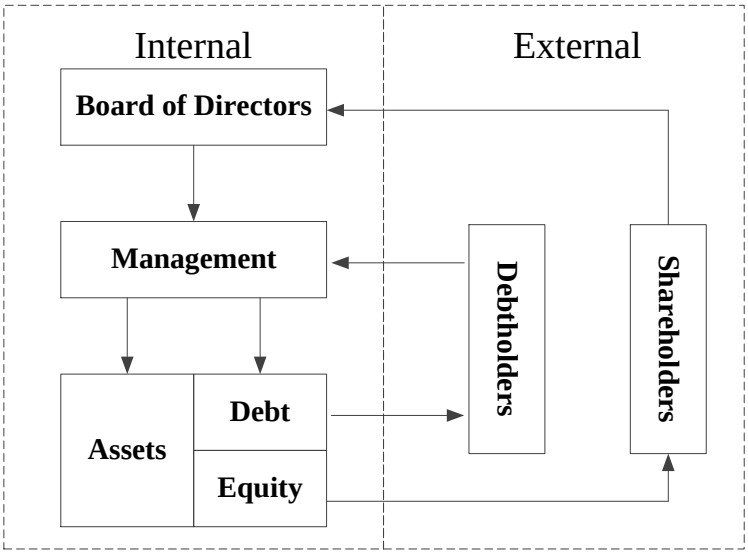


Fig 1. Basic corporate governance model. Source: Gillan (2006)

2.3 Theoretical perspectives

In this section, the theoretical concepts of corporate governance, earnings management and relevant theories for interpreting the relationship between governance and earnings management in interest alignment perspective will be addressed. Although there are wide ranges of theories underpinning the issues of corporate governance, extant literature (i.e. Guthrie and Sokolowsky, 2010; Fauzi and Locke, 2012; Badolato et al., 2014) employs (i) agency, (ii) stewardship, (iii) stakeholders, (iv) resource dependence as of relevant theoretical frameworks which are particularly concerned about the association of corporate governance and earnings.

2.3.1 Agency theory

Agency problem arises from the separation of ownership and control in modern businesses of which stocks are dispersedly held (Fama and Jensen, 1983; Jensen and Meckling, 1976). In several organizations, the role of controlling is most often assigned to employed managers (referred to as agents) and these agents will make decision related to all corporate policies and operations on behalf of the shareholders (the principals), that sometimes causes conflicts in terms of the party-related interests, meanwhile triggering earnings manipulations. The primary objective of shareholders who play a role of major fund suppliers for firm is to maximize their wealth. But their interests are probably dissimilar to those of managers who most often own less equity stake in the firm and prefer to serve their own utility at the expense of shareholders (i.e. perquisite consumption, overinvestment). Likewise, Smith (1776) contends that managers employed to run the firm are working on the others' money rather than on their own, therefore not commonly behaving as in right manner and with great dedication as the owners do.

Daily et al. (2003) indicate two primary factors accounting for the prevalence of agency theory in the scope of corporate governance. First, the theory is characterized by a simple conception in which the corporate context is virtually simplified by only considering the roles of shareholders and executive directors. Second, the theory proposes that both managers and shareholders are driven by their individual interests which are not entirely aligned in the certain manner. The relationship between shareholders (principals) and managers (agents) is regulated via a contract which specifies all the terms and obligations the managers abide by (Shakir, 1997). Nevertheless, such contract is practically impossible to govern all conducts of the managers who have more information about the firm than the owners and are willing to misuse this granted privileges to serve their personal preferences at the shareholders' expenses. Enron, WorldCom, Parmalat, Ahole and the latest case Toshiba are somewhat typical examples for this unethical practice. Manager's preference for perquisite consumption and empire building primarily trigger the agency problem (Jensen and Meckling, 1976).

The information asymmetry and divergent interests whereby create incentives for managers to engage with earnings manipulation. Jensen and Meckling (1976) advocates on employing robust governance structures to control the discretionary behaviors of management and deter them from

earnings management abuses, whereby reducing agency costs to a significant degree. According to Lubatkin (2005), owners should likewise undertake corporate governance as of the remedy of agency problems by mitigating executives' likeliness to use opportunistic means to curb their personal risks. However, Roberts (2004) contends that the shareholders have to accept a certain amount of agency costs to balance their self-interests with those of executives. Monitoring the management performance also enables the firm to incur the so-called "monitoring cost" (Fama and Jensen, 1983).

Relentless attempts have been made to interpret the relation between corporate governance mechanisms and earnings management on a basis of agency theory. In view of agency theory, Coles et al., (2006) assert that larger board size increases the likelihood that more independent directors enter the board, improving the monitoring capacity of board and reducing the degree of earnings manipulation. Additionally, agency theory stipulates that board with a majority of outside directors will better oversee the management and reduce likelihood of earnings management. Agency theory also suggests that if CEO and chairman position are held by the same person, cost of monitoring a board will substantially increase due to domination of the CEO (Fama and Jensen, 1983). Regarding to ownership structure, La Porta et al. (2000) assert agency problems greatly vary according to the extent of ownership concentration in firm. The firm with greater ownership concentration is more likely to favor the large shareholders' interests at the expense of the minority shareholders. Managers with share allocation will be inclined to maximize value of firms, whereby aligning their interests with those of shareholders or resulting in convergence of interests in other words (Gonzalez and Meca, 2014).

Some researchers such as Guthrie and Sokolowsky (2010) move beyond the agent- principal boundary by taking into account how agency costs arise from the current and future shareholders. Inflated earnings around seasoned equity offerings may be attributed to the alignment of interests between outsider blockholdings (principals) and management (agents), resulting in the benefits of current shareholders at the expense of the future ones (Guthrie and Sokolowsky, 2010). Others use the agency theory to interpret how large shareholders engage in earnings management to facilitate their self-serving purposes at the expense of minority shareholders for example via tunneling in Li (2010), Wang and Campell (2012). According to LaFond and Roychowdhury (2006), the board of directors is apparently a crucial corporate governance mechanism to mitigate the agency costs

incurred from the misalignment of interests and information between majority and minority shareholders.

2.3.2 Stewardship theory

This theory raises an alternative perspective to agency theory. The managers will responsibly act for the sake of the company. In this case, the interest of managers (stewards) is assumingly in alignment with that of the shareholder (principals). The managers will therefore be concerned about the benefits of the firm and perform to their best to maximize firm's wealth. Even in case, the interests of stewards are not in line with those of the principals, the stewards will be more likely to underscore the sense of cooperation rather than deliberate misconduct. Acknowledging that the greater utility they can attain from pro-organizational mindset than the benefits from behaving in their own objectives, the managers are obviously motivated to behave on a rational basis (Davis et al., 1997).

In addition, the stewardship theory also posits that managers would prefer to dedicate their efforts to the growth and optimal performance of the firm in order to satisfy their own intrinsic values such as ego, prestige and reputation. This postulation is made in term of identification that allows managers to earn credits for the organizational successes (Turner, 1981). Executives should be given substantial recognitions and rewards unnecessarily in financial terms from peers and their bosses. After working for a couple time in the organization, managers have a critical inclination to integrate their values to the firm successes and thereby derive of any potential harm to firm performance (Daily et al., 2003). Acting as stewards to maximize the firm profits, the mangers expect to not only create more values to the shareholders but also retain their position in the company. The stewardship theory emphasizes the sense of trust as an underlying value of the relationship between managers and shareholders. The investors hence should create effective empowering mechanisms, flexible corporate governance structure and open information disclosure to strengthen the mangers' autonomy meanwhile attaining the corporate goals.

In view of stewardship theory, managers virtually act on behalf board to maximize the shareholders' benefits because their interests are entirely aligned with those of shareholders. The theory, therefore, suggests that there should be no separate position between CEO and chairman, which is supposed to interfere with CEO decisions as well as increase agency costs (Rechner and Dalton, 1991). In

addition, the so-called duality will provide CEOs with more autonomy to set up strategies and perform in their best to create more values for the firm. They would thereby make efficient accounting decision to improve the informativeness and accountability of financial reports.

2.3.3 Stakeholder theory

The theory is basically developed on a basis that the relationship in an organization is not literally limited to only managers and shareholders as in agency theory and stewardship. It incorporates the role of various parties with which managers have to interact to streamline the business operation. These parties are called stakeholders whom Freeman (2004, p. 229) defines "as any group or individual that can affect or is affected by the achievement of a corporation's purpose". Stakeholders embody various resource providers specifically shareholders, employees, creditors, suppliers, consumers, unions and regulatory agencies. These stakeholders play such a crucial role in leveraging firms' productiveness and competitiveness. Firms should extent their concerns about their value-generating contributions and maintain a long-term cooperation with them (the IFC, 2010).

Corporate governance must make sure the inflow of capital from stakeholders (the IFC, 2010). Corporate governance is designed to comply with stakeholders' interests, manage effective usage and allocation of capital, constraining asset misuse (Shleifer and Vishny, 1997). Additionally, corporate governance is also providing mechanisms to mitigating the risks stakeholders are supposedly exposed to when they encounter with insiders' frauds such as asset funneling or expropriation (La Porta et al., 2000). Firms should aim at establishing corporate governance mechanisms such as legal framework, rules and functions which balance the interests of shareholders and stakeholders while sustaining the long term prosperity of the firm.

The stakeholder theory raises such a controversial issue among researchers when drastically overemphasizing the major role of managers to be accountable to stakeholders without mentioning how to keep their interests to function in line with each other. On the other hand, Freeman (1984) argues that the interaction of several relationship of players within and outside firm can govern the decision making processes exercised by managers since the theory presumes that managers and all relevant stakeholders have available intrinsic values. The managers thus are responsible for

protecting the benefits and interests of stakeholders as well as retaining a particular portion of stake corresponding to each holder Freeman (1984).

Fama and Jensen (1983) state that outside directors are assumed to be less influenced by management and seemingly more concerned about their own prestige and reputation with other external stakeholders. This is somehow consistent with proposition of stakeholder theory which recommends the company should be accountable to the entire body of stakeholders. In addition, the stakeholder theory supports CEO holding the position of chairman on board at the same time and suggests leaving more power for managers because it underscores the inherent importance of managers in aligning interests of all stakeholders. However, firms with higher state ownership have often performed less effectively to benefit the stakeholders than privately owned ones (Heath and Norman, 2004). Because state owned enterprises are less accountable to whole stakeholders and enjoying bailout from the state in case of default, managers in these firms tend to pay smaller attention to earnings management even in case of budget deficit or loss.

2.3.4 Resource dependency theory

The theory adheres to the tight connection between the firm and other factors from external environment including human resource, capital supply, and information (Boyd, 1990; Pfeffer, 1973). The boards of directors help to create linkages between the external parties and the firm, gain access to resources in terms of materials, human power, networking and so on. Management capacity of the board to deploy resources is the focal point of the theory. In essence, the role of board is no longer in the constraint of monitoring management but they should be in charge of generating resources through connections with other entities to secure firm performance and overcome market rivalry and volatility (Hillman, et al., 2000).

In view of resource dependence perspective, Hillman and Dalziel (2003, p. 383) assert that board will contribute to the firm in terms of not only its human capital such as expertise, diverse backgrounds, experience but also relational linkages with suppliers, governmental agencies, potential customers, etc. The theory examines how the capital contributions associated with board impact on its allocation of resources and finally resulting in the corporate performance. According to (Boyd, 1990), the dependence theory generally implies two specific viewpoints with respect to board function. First,

board composition is probably subject to the critical assessments from external environment and influential factors. Second, changes in board composition will vary the firm performance accordingly.

To elaborate on how dependence theory shapes up the association between board characteristics and earnings management, Nicholson and Kiel (2007) state that higher proportion of outside directors who possess different backgrounds and technical knowledge will help the board to perform its monitoring function better, reducing the risks the managers act in their own favor, maximizing the shareholders' benefits. In addition, the dependence theory also supports the perspective of non-duality CEO because more people on board will provide more business linkages and enhance board monitoring capability.

2.4 Board characteristics and earnings management

2.4.1 Board size

- *Theoretical background*

As stated before, the agency problem arises from the conflicts of interests between managers and shareholders. As such the firm will definitely incur surging agency cost, reducing overall performance of the company if board of directors fails to exercise their function in monitoring the earnings manipulation of managers and preventing them from hiding information to serve their own objectives. Board size is one of the important characteristics having effects on the performance of the board. Agency theory assumes that larger board size increases the likelihood that more independent directors enter the board, improving the monitoring capacity of board (Coles et al., 2006). Dalton et al., (1999) state that a large board improves board supervision management in terms of the expertise and financial knowledge pooled from more members who enter the board. The perspective that the company is probably benefiting from the diverse backgrounds, knowledge and competency of directors in a large board in terms of monitoring as well as resources procurement is also advocated by the dependence theory.

- *Empirical evidence*

Chtourou et al. (2001) and Chin et al. (2006) examine the effects of board size and earnings management and find a negative relationship. A larger board size results in higher reduction of managerial opportunistic discretion and more feasible decision making (Pearce and Zahra, 1992). Investigating the effects of board characteristics on financial reporting quality for a sample of 281 listed firms from S&P 500 index in 1992, 1994 and 1996, Xie et al., (2003) also find that a large board deters the managerial earnings management.

Nevertheless, other researchers argue that a large board size is also attributed to higher degree of bureaucracy, incoordination, and ultimately slower decision making process. A study conducted by Agrawal and Cooper (2016) come up with findings consistent with this viewpoint when proving that management turnover negatively related to board size after accounting scandals. Lipton and Lorsch (1992) indicate a larger board fume at its effectiveness. Having over ten people in board dramatically backfires because the board members find it impossible to communicate and make a final decision within short time. In addition, empirical analyses suggest a positive relationship with optimal board size ranging from 5 to 10 members. In the context of Vietnamese firms, the number of directors is bound to stay within a range from 3 to 11 members as stipulated in Law on Enterprises (IFC and State Securities Commission Vietnam, 2006). With respect to emerging markets in which companies are typically subject to low transparency and thin boundary between control and ownership, Gonzalez and Meca (2014) suggest that that larger dimensions in the extent of board size lead to increased discretionary accruals or higher activities of earnings management.

The researches related to board size and earnings management relatively vary in their final outcomes. Cornett et al. (2008) provide imperial evidences that there is no statistically significant relationship between board size and discretionary accruals. Badolato et al. (2014) investigate how the interaction between audit committee financial expertise and status correspond to earnings management. Using a sample including 29,073 firm-year observations from 2001 to 2008, they find board size basically has no effect on accounting irregularities and abnormal accruals. The conflicting results are found not only in Anglo-Saxon countries but also in emerging ones, particularly Indonesia. Nugroho (2012) indeed finds no effects board size has on practices of earnings manipulation in Indonesian listed firms.

2.4.2 CEO duality

- *Theoretical background*

In view of stewardship theory, managers virtually act on behalf board to maximize the shareholders' benefits because their interests are entirely aligned with those of shareholders. The theory, therefore, suggests that there should be no separate position between CEO and chairman, which is supposed to interfere with CEO decisions as well as increase agency costs (Rechner and Dalton, 1991). In addition, the so-called duality will provide CEO with more autonomy to set up strategies and perform in their best to create more values for the firm. On the other hand, agency theory suggests that if CEO and chairman position are held by the same person, cost of monitoring a board will substantially increase due to domination of the CEO (Fama and Jensen, 1983). The dependence theory also supports the perspective of non-duality CEO because more people in board will provide more business linkages and enhance board monitoring capability. The stakeholder theory supports the duality and suggests leaving more power for managers because it underscores the inherent importance of managers in aligning interests of all stakeholders. However, this practice definitely backfires because CEO duality is inclined to act on self-interested behavior of managers (Daily et al., 2003). Agency theory suggests that if CEO and chairman position are held by the same person, cost of monitoring a board will substantially increase due to domination of the CEO (Fama and Jensen, 1983).

- *Empirical evidence*

A large number of studies suggest that separating the role of CEO and chairman helps to leverage monitoring, thereby reduce earnings management and secure integrity and accountability of financial disclosures. Jensen (1993) indicates that non-duality CEO basically diffuse the controlling and monitoring function at workplace. When the duties of chairman are more obviously defined, he is more likely to exercise communicating and leading the board of directors and monitoring executives. Klein (2002) also points out the earnings management in term of discretionary accruals is positively related to duality CEO, which is consistent with the fact that duality authorizes CEO immense power in the company to make easy decision in earnings distortion without any reluctance or consideration. Davidson et al. (2004) find that person holding both CEO and chairman position has more incentives to commit in earnings distortion for his advantage.

International empirical research offers mixed findings regarding to duality and earnings management. In emerging markets, specifically Latin America, Gonzalez and Meca (2014) argue that there no significant relationship between CEO duality and opportunistic discretionary earnings. Lefort and Walker (2005) conduct a study based on 120 listed companies throughout Latin America, concluding that there is certain concentration power of ownership and control simultaneously held by the same person who has certain family ties with major shareholders. Rahman and Ali (2006) and Kent et al. (2010) highlight that CEO duality has no relationship with managerial behavior to exercise fraudulent accounting practices. Conversely, using a sample of 266 firms listed on the Shanghai Stock Exchange in 2004 and measuring manipulated transfer prices as earnings management, Lo et al. (2010) find that firms in which different people keep chairman and CEO positions are less likely to perform opportunistic earnings manipulation.

2.4.3 Independent board

- *Theoretical background*

Independent board is commonly referred to as the percentage of non-executive or outside directors on board (Muth and Donaldson, 1998). In the agency perspective, more outside directors taking part in board decision-making will enable it to be more effective in monitoring managers (Fama and Jensen, 1983; Jensen and Meckling, 1976). The independent directors play a major role in arbitrating the conflicts between management and shareholders and enhancing the transparency and compliance of accounting reports (Kent at el., 2010). In view of agency theory, board with a majority of outside directors will better oversee the management and reduce likelihood of earnings management. Moreover, Fama and Jensen (1983) also state that outside directors are assumed to be less influenced by management and seemingly more concerned about their own prestige and reputation with other external stakeholders. This is somehow consistent with proposition of stakeholder theory which recommends the company should be accountable to the entire body of stakeholders. Higher proportion of outside directors who possess different backgrounds and technical knowledge will help the board to perform its monitoring function better, reducing the risks the managers act in their own favor, maximizing the shareholders' benefits (Nicholson and Kiel; 2007). This statement concerning knowledge spillover effects is definitely in line with dependence theory.

❖ *Empirical evidence*

Kent et al. (2010) note that the relationship between independent board and accruals quality is characterized by negative coefficient. In other words, the fact those more non-executive directors appointed on boards is accompanied by shrinking abnormal accruals. Cornett et al. (2008) similarly suggest that board dominated by outside directors is more helpful in monitoring and controlling management's discretionary behavior. Davidson et al. (2005) use sample of 434 listed Australian firms in 2000 to examine the role of internal corporate governance mechanisms to reduce earnings management. They conclude that the presence of non-executive directors on boards has a negative impact on reducing earnings management defined as the absolute level of discretionary accruals.

Peasnell et al. (2005) confirm that higher degree of board independence creates obstacles for managers to engage in earnings manipulation that is supposed to stabilize levels of earnings in listed firms in the U.K. from 1993-1995. The intensity of the effect whether high or low is subject to earnings levels in prior period. As such, higher prior earnings do not necessarily create incentives for managers to intervene and otherwise. Ali and Zhang (2015) show that there is relatively smaller difference in earnings overstatement between the early and the later years of CEOs' service when board is characterized by high degree of independence. It is therefore evident that independent board stimulates more efficiency and effectiveness of board monitoring function, better combats the information asymmetries among parties which have economic linkages with firm.

Although locating in European zone, Spain is somehow different from typical Anglo-Saxon model. In fact, investor protection and regulations enforcement there are loosely and discreetly implemented. Garcia-Osma and Noguer (2007) conduct a study on 155 firm-year observations in Spain from 1999 to 2001 and highlight that the presence of non-executive directors in board probably favors the managers' propensity to commit in earnings distortion. The outcome is only inversed if institutional directors are introduced to board. In Hong Kong, Jaggi and Tsui (2007) also come up with the same findings that more independent directors on board are positively related to insider selling and earnings management.

There are contradictory and controversial outcomes in the studies examining the effects of independence on earnings management in emerging markets. Siregar and Utama (2008) demonstrate

that external directors on board leave an adverse effect on opportunistic earnings manipulation after conducting empirical researches on 144 listed firm in Indonesian market. In China, Lo et al. (2010) also draw similar conclusion that board independence deters managers from manipulating earnings in term of transfer pricing. Wang and Campell (2012) also contend that board independence is kind of an effective practice to mitigate earnings management. Park and Shin (2004) present such a different outcome when all board attributes are not statistically significant associated with earnings management. Gonzalez and Meca (2014) document the increased dimension of board independence has limited effect on the likelihood of earnings management based on 435 firms and 1,740 observations from non financial company listed on Argentinean, Brazilian, Chilean, and Mexican stock exchange during the period 2006–2009.

2.5 Ownership characteristics and earnings management

2.5.1 Ownership concentration

- *Theoretical background*

Shleifer and Vishny (1986) indicate that ownership concentration helps to relieve agency problems which echo from the conflict of interests between principals and agents specified in the agency theory. Possessing a large proportion of firm shares at hand, these shareholders called blockholders have more incentives to oversee management and get involved in strategic decisions to maximize firm value (Shleifer and Vishny, 1986; Gabrielsen et al., 2002). More active engagement of large shareholders accordingly discourages the opportunistic behaviors of management in terms of asset expropriation and deliberate misrepresentation of financial reports. These benefits altogether shape up corporate discipline and generate the productive performance for firms.

However, some researchers argue that the expropriation effect can also become serious as a result of highly concentrated ownership. La Porta et al. (2000) assert agency problems greatly vary according to the extent of ownership concentration in firm. As such, there is a transition of relationship governing agency problems from principal–agent to principal–principal. (Bebchuk and Weisbach, 2010). The firm with greater ownership concentration is more likely to favor the large shareholders' interests at the expense of the minority shareholders. Particularly, Dye (1988) refers to some debt

covenants, misleading contracts as potential sources to serve the needs of current shareholders, hurting the outsiders otherwise.

- *Empirical evidence*

Anglo-Saxon countries are assumingly featured as dispersed ownership and strong protection of investors. In contrast with that perspective, Holderness (2009) provides evidences that large shareholders or blockholders possess a significant amount of shares accounting for 39% of all companies in the US. In addition, there is also at least a large shareholder occupying more than 5% of total shares in almost 96% of firms. As an efficient monitoring engine posited by Jensen and Meckling (1976), higher concentration ownership basically creates a positive effects on financial information in terms of its transparency and integrity, facilitating overall performance of the firm. Using a sample of firms in Netherlands, De Bos and Donker (2004) recommend that the increase in ownership is literally useful in depriving of managerial misconduct and thereby boosting earnings quality. A large number of studies also present the consistent findings that blockholders improve the monitoring capacity of board and reduce earnings manipulation (Yeo et al., 2002; Jiraporn and Gleason, 2007)

In developing countries where weak legal enforcement and poor protection of minority shareholders are witnessed, ownership concentration is granted with higher credits for monitoring managers (Filatotchev et al., 2013). Due to the limitation of external corporate mechanisms, concentration ownership undoubtedly provides shareholders with higher power or status to strengthen supervision of executives (Heugens et al., 2009). Based on 435 firms and 1,740 observations from non financial listed company in Latin America, Gonzalez and Meca (2014) conclude that there is a negative relationship between ownership concentration and earnings management. Klein (2002) demonstrates that the presence of blockerholder owning at least 5% in audit committee deters the practices of earnings management. Based on datasets including 3,310 firm-year observations in China over the years 2001 to 2004, Chen et al. (2011) find out that ownership concentration results in shrinking earning management in state owned enterprises.

Conversely, many other researchers document opposite findings regarding to the relationship between ownership concentration and earnings management. Yang *et al.* (2008) examine the effects

ownership concentration has on earnings management measured by discretionary accruals. They find that ownership concentration is significantly positive associated with earnings management. In essence, this outcome is consistent with findings from Lefort (2007). Those empirical evidences support the fact that once the ownership concentration reaches an extreme degree of shares, large blockholders probably abuse their titles and dominant power to request managers to expropriate wealth of minority shareholders (Jaggi and Tsui, 2007). Alternatively, inflated earnings around seasoned equity offerings may be attributed to the alignment of interests between outsider blockholdings (principals) and management (agents), resulting in the benefits of current shareholders at the expense of the future ones (Guthrie and Sokolowsky, 2010).

2.5.2 Foreign ownership

- *Theoretical background*

The world is becoming flatter when human transportation and trading are no long limited within the constraint of geography or national boundaries. Global economies are increasingly integrated through a series of trade deals, collaborations, and agreements among countries from every corner of the globe. Therefore, massive influx of foreign investments has been articulating across various countries with diverse background of corporate governance and legal enforcement. Foreign ownership is gradually playing such a crucial role in the corporate ownership structure especially in emerging markets (Douma, George and Kabir, 2006). Foreign investments not only generate an abundant supply of capital and funds, but also transfer technology, insights and training.

These foreign investors, commonly large institutions are perceived as highly informed investors (Seasholes, 2004). Gaining greater access to capital resources and human power, these knowledgeable institutions are more productive in monitoring managers than their local counterparts. They usually focus on the long term objectives and therefore are more concerned about concentrated ownership to actively control the management. In addition, there is a higher percentage of independent directors in foreign invested firms (Chien, 2008). In view of agency theory, higher foreign ownership and independent directors are obviously depicted as effective corporate governance mechanisms to tone down agency costs and curb earnings management.

- *Empirical evidence*

Extant literature documents the positive relationship between foreign corporate shareholding and corporate performance (Douma, George and Kabir, 2006). This statement is based on the premise that firms with a significant proportion of shares belonging to foreign investors have exercised monitoring mechanism in internal corporate governance system more effectively in emerging markets. Seaholes (2004) state that foreign institutions are performing in far more superior manner than domestic ones in terms of their value creating motives, investment experience and access to resources. Based on a sample of firms collected via the survey approach in Indonesia, Korea, Malaysia, the Philippines, and Thailand from 1996 to 1998, Hallward-Driemeier et al. (2002) prove that companies with foreign investments are entirely more productive and efficient driven than other types of corporate ownership structure in East Asian countries.

Foreign ownership is also found in companies which showcase relatively high levels of corporate governance. Given that these foreign institutions usually hold a significant amount of shares in firms, they have greater incentives to supervise managers to make sure effective disclosure of information and gear objectives of firms to long-term profitability (Saunders et al., 2006). Aggarwal et al. (2011) suggest that foreign institutions advocates for introducing a significant number of independent directors on board and specifying a suitable board size. Chung et al. (2004) claim that foreign ownership in Japanese firms is associated with less opportunistically earnings manipulations. Jiang and Kim (2004) point out that foreign ownership highly corresponds to earnings timeliness in Japanese firms.

In line with extant literature, Khanna and Palepu (1999) similarly provide evidence about the advantages foreign ownership brings about, specifically strengthening firm monitoring, improving corporate governance and preventing managers from taking advantage of corporate information asymmetry to serve their own interests. Examining the association between foreign ownership and stock price synchronicity as proxy for firm specific information in Chinese listed firms from 1996 to 2003, Gul et al. (2010) indicate that foreign shareholding is more likely to focus on transparency and more advanced corporate governance. However, some studies provide alternative explanations which favor domestic ownership rather than foreign investments. The rationale is that information asymmetry inevitably arises from geographical distance. Foreign investors accordingly lag behind timely reaction to monitor accounting department and mitigate accounting biases. Anachotikul

(2006) finds that foreign shareholders probably tend to take advantage of their rights and influential status on account of high stock ownership to expropriate firm's value at the expense of minority shareholders when weak corporate governance and higher information asymmetry are evident in the firm.

2.5.3 State ownership

- *Theoretical background*

Agency problems arise not only from the conventional relationship between agents and principals as commonly mentioned, but also from the conflict between majority shareholders and minority shareholders. According to Fama (1980), high concentration of ownership structure probably hinders agency problems. All these institutional contexts are virtually applicable to Vietnamese case. The country is still under the transitional phase from government controlled economy to free market. Thus, most enterprises which have critical strategic influences in the market are characterized by high proportion of state ownership (Vu et al., 2011). On the other hand, Heath and Norman (2004) argue that firms with higher state ownership have often performed less effectively to benefit the stakeholders than privately owned ones. Because state owned enterprises are less accountable to whole stakeholders and enjoying bailout from the state in case of default, managers in these firms tend to pay smaller attention to earnings management even in case of budget deficit or loss.

- *Empirical evidence*

Prior empirical evidences corresponding to the association between state-ownership and earnings management produce mixed results. Li (2010) figures out the practice of tunneling, expropriation of assets out of the firm for the benefit of the controlling shareholders, is supposed to be more severe if the firm is under control of private majority shareholder. Shen and Chen (2009) raise a viewpoint towards pro-state ownership when they claim that the state and informal networks are effective corporate governance mechanisms in China. Wang and Campbell (2012) collect a sample of 1329 Chinese listed companies and 11,947 company years, thereby making a conclusion that stateownership discourages earnings management. By using financial data from Vietnamese listed firms from 2005 to 2011, Hoang et al. (2014) announce that state-owned enterprises (SOEs) are less likely to manage accrual earnings than privately owned enterprises (POEs). Examining the

differences in audit quality affect earnings management and cost of equity capital for two classes of firms in China: SOEs and NSOEs, Chen et al. (2011) conclude that audit quality is more likely to reduce opportunistic earnings management practices in non state owned enterprises than state owned ones.

Nevertheless, Ding et al. (2007) and Wang and Dung (2011) inform such a mixed outcome which highlights the relationship between stateownership and earnings management predominantly varies relative to the dynamics of stateownership. Specifically, the positive/negative association between stateownership and earnings management will depend on low/high stateownership. Liu and Lu (2007) find no evidence that firm with a significant proportion of stateownership will restrain or increase the opportunistic behavior of managers in term of discretionary accruals.

Previous studies by the way document non-linearity relationship between ownership and informativeness of earnings (Morck et al. 1988; Yeo et al. 2002). Based on the concept combining entrenchment and alignment hypothesis, Ding et al. (2007) inform such a mixed outcome which highlights the relationship between stateownership and earnings management predominantly varies relative to the dynamics of stateownership. Specifically, they find an inverted U-shape relationship between ownership concentration and earnings management. Last but not least, Chen et al. (2011) indicate an inverted U-shape relationship between ownership concentration and audit quality based on a sample of 3,310 firm-year observations in China over the years 2001 to 2004.

2.5.4 Managerial ownership

- *Theoretical background*

From the early studies (i.e. Jensen and Meckling, 1976 and Fama and Jensen, 1983) to some latest researches (i.e. Guthrie and Sokolowsky, 2010 and Gonzalez and Meca, 2014), most researchers contend that managers are more likely to exercise their discretions in preparing financial reports to serve their own interests at the expenses of shareholders when managers hold relatively little stakes in firms except for the labor contract they have to abide by. In view of agency theory, this conflict of incentives arises from the separation of roles between executives in charge of managing firms and board of directors as controlling function. Conversely, the practice of materializing relationship with managers in terms of share allocation will enable them more inclined to maximize value of firms,

whereby aligning their interests with those of shareholders or resulting in convergence of interests in other words (Gonzalez and Meca, 2014). Thus, the presence of insider ownership can facilitate reduction in earnings management and is negatively associated with earnings management in the same manner.

- *Empirical evidence*

Examining the extent to which managerial ownership affects earnings informativeness, Warfield et al. (1995) document a negative relationship based on sample of U.S firms from 1988 to 1990. This study highlights the importance of managerial ownership in deterring management from engaging with earnings distortion and financial frauds. When managers are having less proportion of corporate stocks at hand, there is higher magnitude of discretionary accruals they exercise to serve their own incentives such as expropriation or smoothing earnings. Based on a panel sample of 557 Chinese publicly listed firms over a nine year period from 1998 to 2006, Wang and Yung (2011) also find that managerial ownership is negatively related to earnings management, but this effect will be mitigated in state owned firms where managers have less pressure to report highest financial performance. Consistent with the findings in Wang and Yung (2011), Gonzalez and Meca (2014) propose the higher managerial ownership will constrain the likelihood of earnings management.

By the way, there are contradictory and mixed evidences in the studies examining the effects of managerial ownership on earnings management. Managers having significant proportion of corporate shares may take advantage of their dominant power to manipulate accounting numbers for their own sake. Yang *et al.* (2008) examine the effects in internal ownership exert on earnings management measured by discretionary accruals. They find that insider ownership is significantly positive associated with earnings management. Acknowledging that corporate profitability measured as earnings will directly reflect on stock price, managers probably use their discretion to inflate earnings and keep their stocks at high price. Isenmila and Elijah (2012) report such a similar result to Yang *et al.* (2008), suggesting that managerial ownership may encourage opportunistic behaviors of manager to manipulate earnings. However, Guthrie and Sokolowsky (2010) find no significant effect of the association between insider ownership and earnings management when firms proceed seasonal equity offerings.

2.6 Institutional background of Vietnam

2.6.1 The legal and regulatory framework in Vietnam

The regulatory enforcement and legal framework on corporate governance in Vietnam have primarily made the first steps in their development cycle (the IFC, 2010). Although Vietnamese regulatory system has dramatically changed to adapt to dynamic market demand in recent years, there are so many challenges and difficulties Vietnam faces to bridge the gap with even other developing nations in terms of legal enforcement, protection for investors and corporate governance (Le and Walker, 2008). Indeed, Vietnam stays at the second position from the bottom of grading table in a survey conducted by World Bank (2013a) to evaluate the degree of investor protection in Southeast Asian countries. Corporate governance for firms in the Vietnamese capital markets is totally governed by two major legal entities including the Vietnamese Ministry of Finance (MOF) and the Vietnamese State Securities Commission (SSC). The later one is authorized to regulate two major stock exchanges in Vietnam, Ho-Chi-Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX).

The regulatory framework imposed on corporate governance includes an array of corporate governance regulations. The issue of corporate governance is initially mentioned in the Law on Foreign Investment in 1987. After several times under amendment, provision and unification, the Law on Enterprises (LOE) was adopted and implemented in 2005. Then a series of regulations for corporate governance has added up, consisting of the Enterprises Law 2005, the Securities Law 2007, and the Code of Corporate Governance of listed firms 2007 and the Model Charter 2007. Under the LOE, Vietnamese Code of Corporate Governance of listed firms was promulgated by MOF in March 2007. It has not really specified corporate governance in detail; its presence marks a positive step for Vietnamese corporate governance as official regulations for all domestically listed firms though. According to World Bank (2013b), since the LOE and corporate governance regulations were enacted and applied, plenty of state owned enterprises (SOE) have been equitized, resulting in better efficiency and higher market orientation. Furthermore, investor protection is also given credits to a certain degree in terms of free share trading, approval of dividends, voting rights, etc. Last but not least, investors gain access to higher qualified annual reports including audited financial statements and non-financial information regarding to board as well as disclosures of main shareholding and related party transactions.

In respect to LOE, the Vietnamese corporate governance is classified as two-tier system governed by board of directors and supervisory board as depicted in figure 2 (Adhikary and Hoang, 2014) . The board of directors is a governance entity which is basically empowered to hire potential managers for the firm, oversee their doings, assess their performance, establish remuneration policy and even terminate contract with underperformed managers. The supervisory board assumes the responsibility of supervising the performance of board of directors, monitoring board of management, checking financial reports and verifying corporate disclosures. The oversight role exercised by the supervisory board over board of directors is relatively limited and usually bypassed by controlling shareholders in board (the IFC, 2010). Though the supervisory board and board of directors are in charge of supervising and disciplining the board of management, these corporate bodies generally overlook their oversight roles and fail to keep mangers in discipline.

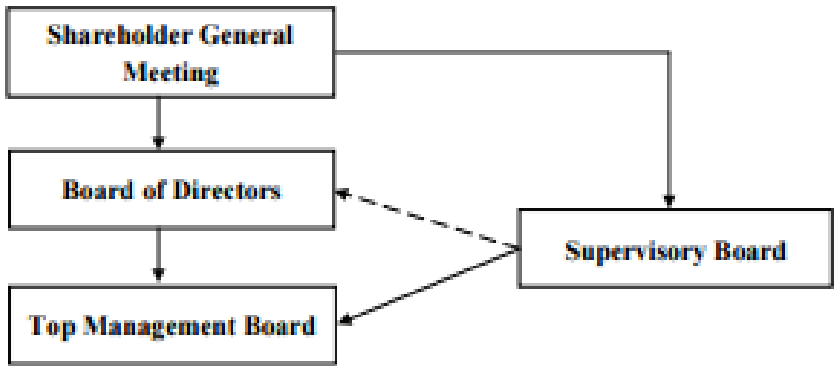


Figure 2: Two-tier corporate governance structure in Vietnamese public companies. Source: Adhikary and Hoang (2014)

2.6.2 Corporate Governance Code in Vietnam

The Vietnamese Code heavily relies on the principles of OECD and appropriately applicable to Vietnamese market. Different from the OECD principles which are unobligatory for corporate adopters, the Vietnamese Code raises a remark in its mandatory enforcement for all listed companies in Vietnam (Le and Walker, 2008). The corporate governance principles focus on the extent that the companies must be controlled and directed to use corporate assets responsibly and keep the interests of shareholders and other stakeholders in alignment. Specifically, the principles embody four major

cornerstones*"(i) Internal governance structures of a listed company; (ii) Rights of shareholders; (iii) Conflict interest and related party transaction; and (iv) Information disclosure and transparency"* (Le and Walker, 2008, p.14).

The Vietnamese Code updated in July 2012 under Circular 121/2012/TT-BTC provides regulations and enforcement on corporate governance principles for Vietnamese firms. Indeed, the revised code presents a formal legal framework of corporate governance applicable to Vietnamese listed firms, specifically requirements in board size, board composition, structure, duties etc. As particular remarks of this guideline, the board of directors must be consisted of at least five but no more than eleven members. Board must include the presence of independent directors who accounts for at least one-third of whole board. The revision of corporate governance code also advocates on separation between the role of chairman and CEO of the firm.

Such a compulsory corporate governance structure does not necessarily make sure the robust development of corporate governance in realistic scenario. According to World Bank (2013b, p.2), Vietnam should undertake further sizeable measures to improve its current status of corporate governance which is subject to following conditions:

- Major state owned enterprises are working in obscure approach and inevitably leaving behind substantial financial risks to the government. The requirement to strengthen governance of these firms and further privatization are inevitable.
- Weak protection of minority shareholders. Indeed, minority shareholders are susceptible to the abuse of insiders and major shareholders. They are not specifically granted with rights to file a lawsuit when being treated improperly.
- The disclosures of board ownership and composition are somehow ambiguous and minimal. The local accounting standards are in the early phase of IRFS, necessarily fueling convergence to IFRS.
- The professional status and independence of board have not explicitly been witnessed.
- The discrepancies among various circulars, degrees and regulatory system create "blind" spot for legal solutions. All of these are in essence standardized and consistent to make sure rigorous legal system.

Chapter 3: Hypotheses development

3.1 Board characteristics and earnings management

3.1.1 Board size

Previous literature emphasizes board size as one of major corporate governance facets. Agency theory assumes that larger board size increase the likelihood that more independent directors enter the board, improving the monitoring capacity of board (Coles et al., 2006). The dependence theory posits that more members on board provide more potential relationships with other parties to create higher values for firms. The stewardship theory also supports larger board because these stewards can utilize their technical expertise, probably in finance to safeguard transparency of financial information. Dalton et al. (1999) state that a large board bolsters the monitoring function in terms of the expertise and financial knowledge more members contribute to board competencies when they enter the board.

However, a lot of literature such as Agrawal and Cooper (2016) prove that larger board is probably related to increase in earnings management due to bureaucracy, sluggish communication, and ultimately slower decision making process. Jensen (1996) argues that larger board impairs exchanging information channel and coordination between members on board, facilitating surging coalition costs. All of these problems excessively fume at the effective board oversight of the opportunistic behavior of management to introduce noise and bias into financial reports. A study conducted by Agrawal and Cooper (2016) comes up with findings consistent with this viewpoint and sharing that management turnover is negatively related to board size after accounting scandals. Santiago and Brown (2009) and Gonzalez and Meca (2014) highlight that larger size of board is associated with weaker capacity of monitoring management's discretionary behavior. From all the above mentioned empirical evidences together with the assumption of theories, the hypothesis is postulated as follows:

Hypothesis 1: Board size positively affects earnings management

3.1.2 CEO duality

All extant literature of theories and empirical evidences has no consensus on the effects CEO duality creates on earnings management. On the one hand, stewardship theory suggests that there should be no separate position between CEO and chairman, which is supposed to interfere with CEO decisions as well as increase agency costs (Rechner and Dalton, 1991). On the other hand, dependence theory supports the perspective of non-duality CEO because more people engaged in board will provide more business linkages and enhance board monitoring capability. Additionally, agency theory suggests that if CEO and chairman position are held by the same person, cost of monitoring a board will substantially increase due to domination of the CEO (Fama and Jensen, 1983).

Klein (2002) points out the earnings management in term of discretionary accruals is positively related to duality CEO, which consistent with the fact that duality authorizes CEO immense power in the company to make easy decision in earnings distortion without any reluctance or consideration. Davidson et al. (2004) find that person holding both CEO and chairman position has more incentives to commit in earnings distortion for his advantage. Based on a sample of 266 firms from firms listed on the Shanghai Stock Exchange in 2004 to investigate the association between duality and earnings management, Lo et al. (2010) provide findings that firms in which different people keep chairman and CEO positions are less likely to perform opportunistic earnings manipulation. Supporting this argument, Wang and Liang (2008) find that firm with CEO duality seems to release lower quality disclosures. Based on the aforementioned arguments and prediction from agency as well as dependency theory, the hypothesis is formulated as followed:

Hypothesis 2: CEO duality positively affects earnings management.

3.1.3 Independent board

According to OECD (the IFC, 2010), executives are the people who directly get involved with management of the entire firm. Independent directors are commonly defined as non-executive or outside directors on board. Stakeholder theory advocates using these independent directors to represent the interests of diverse stakeholders in company, expand the current board workscope and competency. Agency theory likewise proposes more outside directors taking part in board decision-making will enable it to be more effective in monitoring managers (Fama and Jensen, 1983; Jensen and Meckling, 1976). The independent directors play a major role in arbitrating the conflicts between

management and shareholders and enhancing the transparency and compliance of accounting reports (Kent at el., 2010). In view of agency theory, board with a majority of outside directors will better oversee the management and reduce likelihood of earnings management.

Extant research implemented in Anglo-Saxon area reflects a negative association between the proportion of independent directors on board and earnings management. Kent et al. (2010) give a similar outcome. They assert that higher degree of board independence creates obstacles for managers to engage in earnings manipulation in 392 listed Australian companies for the years 2000–2006. Using a sample containing 20,206 firm-year observations, representing 4,625 CEOs and 2,704 firms for the years 1992– 2010, Ali and Zhang (2015) show that there is basically smaller difference in earnings overstatement between the early and the later years of CEOs' service when board is characterized by high degree of independence.

However, findings with respect to this relationship have been so far inconsistent in emerging markets. These markets are most widely acknowledged as low profiled investor protection and weak regulations enforcement, widening the gap between insiders and outside investors in term of information asymmetry. Gonzalez and Meca (2014) confirm the increased degree of board independence diminishes the likelihood of earnings management based on a sample of 435 listed firms in Latin American Markets from 2006 to 2009. In China, Lo et al. (2010) conclude that board independence deters managers from manipulating earnings. Based on the recommendation of agency theory and empirical studies in China which has relatively similar constitutional context and regulatory system to Vietnam, the following hypothesis will be:

Hypothesis 3: Board independence negatively affects earnings management.

3.2 Ownership characteristics and earnings management

3.2.1 Ownership concentration

Many other researchers argue that when ownership concentration becomes too large, the agency problems between majority and minority shareholders inevitably rally because the minority shareholders' wealth is subject to expropriation (Lefort, 2007). Dye (1988) refers to some debt covenants, misleading contracts as potential sources to serve the needs of current shareholders,

hurting the outsiders otherwise. Indeed, the blockholders in role of monitors actually benefit from temporarily inflated share prices through overstatement of earnings (Guthrie and Sokolowsky, 2010). In these circumstances, the principals and agents share the same rewards from earnings distortion. However, agency theory also suggests larger blockholders have more incentives to oversee management and obtain active engagement in strategic decisions to maximize firm value (Gabrielsen et al., 2002).

There are inconclusive results deriving from diverse studies investigating the association between ownership concentration and the extent that managers exercise their discretions to distort earnings in firms. Yeo et al. (2002) underscore the role of blockholders to improve monitoring and informativeness of earnings. With sample consisting of 490 firm-year observations on the Singapore Stock Exchange from 1990 to 1992, they document the positive effects of concentrated shareholdings on discretionary accruals. De Bos and Donker (2004) recommend that the increase in ownership is literally useful in depriving of managerial misconduct and thereby boosting earnings quality.

Different from developed ones, developing countries are characterized as weak legal enforcement and poor protection of minority shareholders. In these particular countries, blockholder shareholding is evaluated as powerful mechanism on a basis of controlling management (Filatotchev et al., 2013). Based on 435 firms and 1,740 observations from non financial listed company in Latin America, Gonzalez and Meca (2014) conclude that there is a negative relationship between ownership concentration and earnings management. Chen et al. (2011) also document a negative relationship between ownership concentration and earnings manipulations. According to agency theory and other empirical findings in line with efficient monitoring hypothesis, I would like to come up with the following hypothesis:

Hypothesis 4: Ownership concentration negatively affects earnings management.

3.2.2 Foreign ownership

Foreign ownership is found in companies which are featured as relatively high levels of corporate governance. In line with previous evidences, Khanna and Palepu (1999) similarly provide evidences about the advantages foreign ownership brings about, specifically strengthening firm monitoring, improving corporate governance and preventing managers from taking advantage of corporate

information asymmetry to serve their own interests. This strand of literature is based on a rationale that foreign investor derive great benefits from easy access to better resources and pool of expertise to limit earnings management. Additional, foreign investors pay attention to have higher percentage of independent directors in board (Chien, 2008). These benefits resulting from the introduction of foreign shareholding in ownership structure such as alleviating agency costs and information asymmetry are totally consistent with agency theory.

Although there are controversial arguments with respect to the effects of foreign ownership to monitor opportunistic behaviors of managers, the studies highlighting the prominent role of foreign investments are more prevalent. Seaholes (2004) confirm that foreign institutions are performing in far more superior manner than domestic ones in terms of their value creating motives, investment experience and access to resources. Chung et al. (2004) claim that foreign ownership in Japanese firms is associated with less opportunistically earnings manipulations. Guo et al. (2014) also confirm that foreign ownership constrains the practice of earnings distortion in Japanese firms. Based on aforementioned arguments and prediction of agency theory, the hypothesis is formulated as follows:

Hypothesis 5: Foreign ownership negatively affects earnings management

3.2.3 State ownership

In Vietnamese context, the government has controlling ownership in almost all largest listed firms (Vu et al., 2011). With various granted privileges, these government-related managers or politicians have more incentives to behave on their own interests rather than maximize the wealth of shareholders including both the government and minority shareholders in this case. The agency problems seriously arise from these state dominated firms because the managers explicitly have no ownership of the assets. Therefore, these managers often liquidate assets or expropriate funds to reinforce their political positions or to further their individual remuneration.

Researches examining the association between state ownership and earnings management are relatively limited and inclusive in their findings. Based on a sample of 1329 Chinese listed companies and 11,947 company years, Wang and Campbell (2012) investigate the effect of state ownership on earnings management. They demonstrate that higher degree of stateownership tends to deter earnings management. By using financial data from Vietnamese listed firms from 2005 to 2011,

Hoang et al. (2014) report that state-owned enterprises (SOEs) are less likely to manage accrual earnings than privately owned enterprises (POEs).

Ding et al (2007) particularly state that state owned enterprises are more inclined to distort earnings. This fact is mostly attributed to lower quality corporate governance when government as majority shareholder has relatively ultimate power to nominate CEOs and other executives as its own choice without any tough intervention from minority shareholders. Overwhelming agency conflicts, contradicted market discipline, together with controlling ownership of government will leave managers with so much room to exercise opportunistic earnings discretion (Wang and Yung, 2011). As such Audit quality is more likely to reduce opportunistic earnings management practices in non state owned enterprises than state owned ones (Chen et al., 2011). Based on the agency theory and the abovementioned arguments, I would like to formulate the following hypothesis:

Hypothesis 6a: State ownership positively affects earnings management.

Previous studies by the way document non-linearity relationship between ownership and informativeness of earnings (Morck et al., 1988; Yeo et al., 2002; Gonzalez and Meca, 2014). The findings are underpinned by two specific theoretical hypotheses. Whereas alignment effect mitigates opportunistic managerial behaviors when ownership concentration stays at a low degree, the entrenchment effect advocates that highly concentrated shareholders are more likely to satisfy their personal interests at the others' expenses. According to Ding et al. (2007), if state ownership concentration remains at low level, state ownership concentration will be positively associated with earnings management. If the state shareholders own significantly high level of shares in the firm, a negative relationship will be established. There is also an inverted U-shape relationship between ownership concentration and audit quality in Chen et al. (2011). Given that a scenario in which state ownership is particularly related to earnings management in nonlinearity term might take place, the hypothesis is formulated as*:*

Hypothesis 6b: There is an inverted U-shape relationship between state ownership and earnings management.

3.2.4 Managerial ownership

Agency theory suggests that conflict of incentives arises from the separation of roles between executives in charge of managing firms and board of directors as controlling function. Jensen and Meckling (1976) add to that remark by contending that managers are more likely to exercise their discretions in preparing financial reports to serve their own interests at the expenses of shareholders when managers hold relatively little stakes in firms except for the labor contract they have to abide by.

There are contradictory evidences in the studies examining the effects of managerial ownership on earnings management. In one hand, managers having excessive ownership of corporate shares may take advantage of their dominant power to manipulate accounting numbers for their own sake. Yang *et al.* (2008) examine the effects in internal ownership exert on earnings management measured by discretionary accruals. They find that insider ownership is significantly positive associated with earnings management. Isenmila and Elijah (2012) report such a similar result to Yang *et al.* (2008), suggesting that managerial ownership may encourage opportunistic behaviors of manager to manipulate earnings.

On the other hand, examining the extent to which managerial ownership affects earnings informativeness, Warfield et al. (1995) document a positive relationship based on sample of U.S firms from 1988 to 1990. This study highlights the importance of managerial ownership in deterring management from engaging with earnings distortion and financial frauds. Based on a panel sample of 557 Chinese publicly listed firms over a nine year period from 1998 to 2006, Wang and Yung (2011) also find that managerial ownership is negatively related to earnings management, but this effect will be mitigated in state owned firms where managers have less pressure to report highest financial performance. Consistent with the findings in Wang and Yung (2011), Gonzalez and Meca (2014) propose the higher managerial ownership will constrain the likelihood of earnings management. Based on the reasoning from agency theory and empirical evidences observed in Warfield et al. (1995), Wang and Yung (2011) and Gonzalez and Meca (2014), I formulate the hypothesis as followed:

Hypothesis 7: Managerial ownership negatively affects earnings management.

Chapter 4: Research design

Based on the theoretical background, literature review and formulated hypotheses presented in previous chapters, this chapter concentrates on the process of data collection and construction of research models for this thesis. First, the methods or sketched plan of statistical procedure are addressed. Second, specification of the model is constructed. Third, the typical description of the independent, dependent and control variables used in the model is discussed respectively. Fourth, the criteria for data sampling are addressed. Finally, the statistical tests associated with the research specifications are exhibited.

4.1 Methods

First, I conduct OLS regression to determine accruals quality as the dependent variable (Dechow and Dichev, 2002; McNichols, 2002; Francis et al., 2005; Kent et al., 2010; Hoang et al., 2014; Ali and Zhang. 2015). According to Dechow et al. (2010), accruals quality obviously generates higher explanatory power than that of modified Jones model as proxies for earnings management. However, to verify the robustness of both accruals regression model and other baseline models, I adopt another two methods, specifically modified Jones model in Dechow et al. (1995) and performance augmented discretionary accruals model in Kothari et al. (2005) to construct the discretionary accruals. Univariate analysis or descriptive tests is conducted to generate the general picture of all included variables in terms of mean, variance, standard variance, etc. Winsorization is used to remove extreme values. In addition, the univariate tests somehow reveal certain relationship between the response and explanatory variables. Woodbridge test autocorrelation and modified Wald test for groupwise heteroskedasticity are later processed to make sure the validity of statistical assumption for multivariate regression techniques I use for testing.

Second, OLS regression which is also adopted by Kent et al. (2010) and Chen el at. (2011) in their first testing attempt is run to test the hypotheses between corporate governance mechanisms and earnings management. As for the research specifications, dataset is basically in form of panel data. There are supposed to be certain missing values due to delisted firms or distorted data. Thus, if there are some missing years for cross-sectional units in dataset, the panel dataset will become unbalanced. The serial correlation is also likely to arise from the time-varying patterns of explanatory variables.

In this case, Wooldridge (2010) recommends using Generalized Least Squares (GLS) regression because it not only provides more efficient estimator but can be extended to unbalanced data as well. Furthermore, some of variables I feel interested in are time-invariant ones which will inevitably be excluded from fixed effects model. I will therefore use the GLS random effects model to estimate the relationship between corporate governance and earnings management.

4.2 Model specifications

To test the effects of corporate governance mechanisms on earnings management, the baseline regression model is selected to capture the linear effects following Xie (2001), Park and Shin (2004), Davidson et al. (2005), Kent et al. (2010), Wang and Yung (2011), Chen et al. (2011), Gonzalez and Meca (2014), Badolato et al. (2014), and Ali and Zhang (2015):

OLS regression model:

$$AQ1_{it} = \beta_0 + \beta_1 BOARD\_SIZE_{it} + \beta_2 IND_{it} + \beta_3 DUAL_{it} + \beta_4 OWN\_STATE_{it} + \beta_5 OWN\_MNG_{it} + \beta_6 OWN\_FR_{it} + \beta_7 OWN\_CON_{it} + \beta_8 AUDIT_{it} + \beta_9 LOG\_SIZE_{it} + \beta_{10} LEVERD_{it} + \beta_{11} GROWTHS_{it} + \beta_{12} ROA_{it} + \beta_{13} LOSS_{it} + YEAR_t + INDUS_i + \varepsilon_{it} \quad (4.2.1)$$

Due to the abovementioned reasons which highlight the advantages of GLS random effect model in terms of its robustness to missing data and appropriate estimation of time-invariant variables. Random effect model is formulated as follows:

$$AQ1_{it} = \beta_0 + \beta_1 BOARD\_SIZE_{it} + \beta_2 IND_{it} + \beta_3 DUAL_{it} + \beta_4 OWN\_STATE_{it} + \beta_5 OWN\_MNG_{it} + \beta_6 OWN\_FR_{it} + \beta_7 OWN\_CON_{it} + \beta_8 AUDIT_{it} + \beta_9 LOG\_SIZE_{it} + \beta_{10} LEVERD_{it} + \beta_{11} GROWTHS_{it} + \beta_{12} ROA_{it} + \beta_{13} LOSS_{it} + YEAR_t + INDUS_i + U_i + \varepsilon_{it} \quad (4.2.2)$$

Table 1: Measurements and predicted sign of all variables included in models

Dependent Variable	Measurements	Referenced articles	Predicted Sign
$AQ1_{it}$	= Accruals quality	Dechow and Dichev, 2002; McNichols, 2002; Francis et al., 2005; Kent et al., 2010; Ali and Zhang. 2015	
AbsDAC	= the absolute value of discretionary accruals	Dechow et al., 1995; Wang and Dung, 2011; Gonzalez and Meca, 2014	
AbsDA	= the absolute value of performance augmented discretionary accruals	Kothari et al., 2005; Guthrie and Sokolowsky, 2010; Chen et al., 2011	
Independent Variables			
$BOARD\_SIZE_{it}$	= Proportion of non-executive members in board of directors (independent directors/total directors)	Badolato et al., 2014; Agrawal and Cooper, 2016	+
IND_{it}	= Proportion of non-executive members in board of directors (independent directors/total directors)	Park et al., 2004; Kent et al., 2010; Badolato et al., 2014; Chen et al., 2011	-
$IND50_{it}$	= Dummy variable that takes the value of 1 if board has a majority of outside directors (greater than 50%), and 0 otherwise	Klein, 2002; Ali and Zhang, 2015	-
$DUAL_{it}$	= Dummy variable equal to 1 if CEO is Chairman, equal to 0 if otherwise	Lo et al., 2010; Kent et al., 2010; Gonzalez and Meca, 2014; Badolato et al., 2014; Agrawal and Cooper, 2016	+
OWN_FR_{it}	= Percentage of foreign ownership	Guo, et al.,2014	-
OWN_MNG_{it}	= Percentage of management ownership	Guthrie and Sokolowsky, 2010; Gonzalez and Meca, 2014	-
OWN_CON_{it}	= The percentage of outstanding stocks owned by shareholders who own at least 5%	Guthrie and Sokolowsky, 2010; Chen et al., 2011	-
$OWN\_CON\_d_{it}$	= 1 if percentage of outstanding stocks owned by shareholders exceed 50%.	Klein, 2002; Park et al., 2004; Ding et al., 2007; Chen et al., 2011	-
OWN_STATE_{it}	= Percentage of state ownership	Ding et al., 2007; Wang and Yung, 2011	+
OWN_STATE2	= Square of state ownership	Ding et al., 2007; Hoang et al. 2014	?
$STATE0_{it}$	= Dummy variable for state ownership which is equal to 1 if state ownership is higher than 0, and 0 otherwise	Liu and Lu, 2007; Chen et al., 2014	+
Control Variables			
LOG_SIZE_{it}	= Natural logarithm of book value of total asset	Guthrie and Sokolowsky, 2010; Badolato et al., 2014	-
LOG_SIZEE_{it}	= Natural logarithm of market capitalization	Ali and Zhang, 2015	-
$LEVERD_{it}$	= Ratio of total debt divided by total assets	Chen et al., 2011; Badolato et al., 2014; Ali and Zhang, 2015	+
$LEVERTL_{it}$	= Ratio of total liability divided by total assets	Ali and Zhang, 2015	+
$GROWTHS_{it}$	= Difference between sales of this year and that of prior year	McNichols, 2000; Badolato et al., 2014	+
$GROWTHA_{it}$	= the ratio of difference between total asset of this year and that of prior year	Ali and Zhang, 2015	+
ROA_{it}	= Net income divided by total assets	Chen et al., 2011; Badolato et al., 2014	-
ROE_{it}	= Net income divided by total equity	Houqe et al., 2007	-
$AUDIT_{it}$	= Dummy variable, 1 if firm is audited by Big 4 auditors and 0 otherwise	Kent et al., 2010; Badolato et al., 2014	-
$LOSS_{it}$	= Dummy variable, 1 if the firm incurs losses in the last 2 years and, 0 otherwise	Badolato et al., 2014; Ali and Zhang, 2015; Chen et al., 2011	+
$YEAR_t$	= Year dummies	Guthrie and Sokolowsky, 2010; Chen et al., 2011	
$INDUS_i$	= Industry dummies	Chen et al., 2011	
U_i	= firm-specific random effect	Liu and Lu, 2007	

4.3 Measurement of variables

4.3.1 Dependent variables

As discussed above, this thesis employs accruals quality as main proxy for earnings management. Regarding to the measurement of discretionary accruals, there are certain models in common use so far. Jones (1991) defines accrual based management as a function including sales growth and PPE. Nonetheless, the explanatory power associated with this model is relatively low, accounting for only about 10% of the variation in accruals (Dechow et al., 2010). The outcome of this model is partly due to the fact that the residuals are less effective in prediction for earnings in forthcoming year than non-discretionary accruals (Xie, 2001). But the residuals exhibit a significantly positive correlation with total accruals (Dechow et al., 2003). All these factors result in higher risk of type I errors.

Modified Jones model is then suggested by Dechow et al. (1995) to mitigate the biased outcomes eliciting from misspecification of Jones model. By deducting growth in credit sales in original Jones model, the adjusted model technically facilitates higher explanatory power for the research specification except for the untouched issue of type I errors. Dechow and Dichev (2002) propose accruals quality as another proxy to estimate earnings management by relating working capital accruals to cash flow from operations. McNichols (2002) incorporates changes in sales and the size of property, plant and equipment in Dechow and Dichev (2002) model. This model practiced by McNichols (2002) and Francis et al. (2005) prove such a better fit model than the modified Jones model (Dechow et al. 2010). Kothari et al. (2005) introduce such an alternative approach to tackle the drawbacks of type I errors in modified Jones model. Accordingly, the so called Performance Augmented Discretionary Accruals model which is used in Guthrie and Sokolowsky (2010), Chen et al. (2011) includes ROA as inclusive component to control firm performance. However, Dechow et al., (2010) argue that this model should be used only if performance is seriously the case. Dechow et al. (2012) recently introduce a new technique to capture the effects of discretionary accruals. They presume that the accruals must always be reversed in a certain period of time and the incorporation of these reversals will boost the power of the test. However, the method requires researchers to thoroughly acknowledge the exact timing of the reversals, which is somehow puzzling for researchers to identify.

Although basically featured as imperfect approach due to certain abovementioned advantages and disadvantages, accruals quality is widely used, and obviously verifying significant outcomes in such extant literature such as McNichols (2002), Francis et al., (2005), Kent et al. (2010), Hoang et al. (2014), Ali and Zhang (2015) and etc. From all the above reasons, I would prefer to employ accruals quality suggested by McNichols (2002) to measure discretionary accruals as dependent variable in my baseline models. In addition, two other proxies for earnings management specifically modified Jones model in Dechow et al. (1995) and performance augmented discretionary accruals model in Kothari et al. (2005) are constructed to further the robustness of either accruals model or baseline models.

- **Accruals quality**

First, I compute the total accruals of earnings as:

$$\mathrm{TA}_{it} = (\Delta\mathrm{CA}_{it} - \Delta\mathrm{CL}_{it} - \Delta\mathrm{CASH}_{it} + \Delta STD_{it} - \mathrm{DEP}_{it}) \quad (4.3.1.1)$$

TA_{it} = total accruals of earnings
$\Delta\mathrm{CA}_{it}$ = change in current assets for firm i in the year t.
$\Delta\mathrm{CL}_{it}$ = change in current liabilities for firm i in the year t.
$\Delta\mathrm{CASH}_{it}$ = change in cash and cash equivalents for firm i in the year t.
$\Delta\mathrm{STD}_{it}$ = change in debt included in current liabilities for firm i in the year t.
DEP_{it}= depreciation and amortization expense for firm i in the year t.

Following Kent et al. (2010), Hoang et al. (2014), Ali and Zhang (2015), accruals quality is measured by the model introduced by McNichols (2002).

$$\frac{\mathrm{TA}_{it}}{A_{it-1}} = \lambda_0 + \frac{\lambda_1 CFO_{it-1}}{A_{it-1}} + \frac{\lambda_2 CFO_{it}}{A_{it-1}} + \frac{\lambda_3 CFO_{it+1}}{A_{it-1}} + \frac{\lambda_4 \Delta REV_{it}}{A_{it-1}} + \frac{\lambda_5 \mathrm{PPE}_{it}}{A_{it-1}} + \varepsilon \quad (4.3.1.2)$$

TA_{it} = total accruals of earnings
A_{it-1} = total asset of firm i at the beginning of year t.
CFO_{it} = cash flows from operation in the t
$\Delta\mathrm{REV}_{it}$ = change in revenues for firm *i* in the year *t*
PPE_{it} = level of gross property, plant and equipment for firm *i* in the year *t*
ε_{it} = error term for firm *i* in year *t*.

I estimate residuals from the equation (4.3.1.2) according to each year group. The measure of accrual quality is finally calculated based on the standard deviation of the estimated residuals. A higher standard deviation indicates higher volatility of estimated accruals from cash flow and therefore lower accruals quality. And lower standard deviation signifies higher accruals quality otherwise.

- **Modified Jones model**

To determine the discretionary accruals, I will stick to Dechow et al. (1995)'s guidance for each specific step which is also used in Xie et al., (2003), Davidson et al. (2005), Cornett et al. (2008), Wang and Dung, (2011), and Gonzalez and Meca (2014). After estimating the total accruals based on the abovementioned equation (4.3.1.1), I then regress the equation (4.3.1.3) using Ordinary Least Squared (OLS) estimation to identify the parameters associated with the equation for each year and SIC code industry. Since the error terms are correlated with heteroskedasticity, I scale each variable with total lagged asset:

$$\frac{\mathrm{TA_t}}{\mathrm{A_{it-1}}} = \beta_0\left(\frac{1}{\mathrm{A_{it-1}}}\right) + \beta_1\left(\frac{\Delta\mathrm{REV_{it}}}{\mathrm{A_{it-1}}}\right) + \beta_2\left(\frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}}\right) + \varepsilon_{it} \qquad (4.3.1.3)$$

A_{it-1} = total asset of firm i at the beginning of year t.
ΔREV_{it} = change in revenues for firm *i* in the year *t*
PPE_{it} = level of gross property, plant and equipment for firm *i* in the year *t*
ε_{it} = error term for firm *i* in year *t*.

Based on the estimates for the regression parameters $(\beta_0, \beta_1, \beta_2)$, I estimate each firm's non-discretionary accruals (NDCA)

$$\mathrm{NDCA_{it}} = \beta_0\left(\frac{1}{\mathrm{A_{it-1}}}\right) + \beta_1\left(\frac{\Delta\mathrm{REV_{it}} - \Delta\mathrm{REC_{it}}}{\mathrm{A_{it-1}}}\right) + \beta_2\left(\frac{\mathrm{PPE_{it}}}{\mathrm{A_{it-1}}}\right) + \varepsilon_{it} \qquad (4.3.1.4)$$

ΔREC_{it} = change in net accounts receivables from year t−1 to year t ($REC_{it} - REC_{it-1}$).

I compute the discretionary current accruals, DAC_{it} according to the following equation:

$$\mathrm{DAC_{it}} = \frac{\mathrm{TA_{it}}}{\mathrm{A_{it-1}}} - \mathrm{NDCA_{it}} \qquad (4.3.1.5)$$

Finally, discretionary accruals $(DAC)_{it}$ will be used to measure earnings measurement. This approach is entirely in line with studies of Klein, (2002), Garcia-Osma and Noguer (2007), Gonzalez and Meca (2014).

❖ **Performance Augmented Discretionary Accruals model**

Following Kothari et al. (2005), Guthrie and Sokolowsky (2010), Chen et al. (2011) and Agrawal and Cooper (2016), I include return on assets as an additional regressor to estimate parameter $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$

$$\frac{TA_{it}}{A_{it-1}} = \beta_0 + \beta_1 \left(\frac{1}{A_{it-1}}\right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_4 (ROA_{t-1}) + \varepsilon_{it} \qquad (4.3.1.6)$$

With the estimates for the regression parameters $(\beta_0, \beta_1, \beta_2, \beta_3, \beta_4)$, I estimate each firm's non-discretionary accruals (NDCA)

$$NDCA_{it} = \beta_0 + \beta_1 \left(\frac{1}{A_{it-1}}\right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_4 (ROA_{t-1}) + \varepsilon_{it} \qquad (4.3.1.7)$$

I compute the discretionary current accruals, DA_{it} according to the following equation:

$$DA_{it} = \frac{TA_{it}}{A_{it-1}} - NDCA_{it} \qquad (4.3.1.8)$$

4.3.2 Independent variables

I decide to use three typical board attributes (board size, CEO duality, and independent directors) and fourth corresponding features of ownership structure (ownership concentration, foreign ownership state ownership and managerial ownership) as proxies for corporate governance mechanisms to investigate the association between corporate governance and earnings management. Each of these variables is specifically defined as follows:

Agrawal and Cooper (2016) state that larger board is probably related to increase in earnings management due to bureaucracy, sluggish communication, and ultimately slower decision making process. Gonzalez and Meca (2014) similarly find that a large board increases the managerial

earnings management which is technically measured by discretionary accruals. **Board size** is the number of directors who are present in the board (Badolato et al., 2014; Agrawal and Cooper, 2016).

Extant research reflects a negative association between the proportion of independent directors on board and earnings management. Davidson et al. (2005) conclude that higher composition of independent directors on board is more likely to mitigate managers' propensity to engage in earnings manipulation. Kent et al. (2010) demonstrate that external directors on board improve the accruals quality. In their research specification, Park and Shin (2004), Kent et al. (2010), Badolato et al. (2014), Chen et al. (2011) measure **board independence** as the proportion of non-executive members in board of directors (independent directors/total directors). Alternatively, Klein (2002) argues that board independence is also defined as the majority of directors staying on board without any connection to executives. Incorporating dummy variable, Klein (2002) and Ali and Zhang (2015) indicate a cut-off level at 51% or higher is such an eligible criterion to define **board independence**.

Duality is the situation in which chairman of a firm occupies the position of CEO as well. The concentration of power accordingly undermines the effectiveness of board supervision, allowing the managers to exercise discretion in earnings manipulation. Supporting this argument, Wang and Liang (2008) find that firm with CEO duality seems to disclose lower quality financial reports. According to the studies from Lo et al. (2010), Kent et al. (2010), Gonzalez and Meca (2014), Badolato et al. (2014) and Agrawal and Cooper (2016), CEO duality is defined as dummy variable which yields the value of 1 if the position of chairman and CEO belongs to the same person and 0 otherwise.

Based on 435 firms and 1,740 observations from non financial listed company in Latin America, Gonzalez and Meca (2014) conclude that there is a negative relationship between ownership concentration and earnings management. In line with above evidences, Chen et al. (2011) also document a negative relationship between **ownership concentration** and earnings manipulations. Accordingly, ownership concentration is measured as the percentage of outstanding stocks owned by shareholders who own at least 5% according to Guthrie and Sokolowsky (2010), Gonzalez and Meca (2014) and Chen et al. (2011). In another way, ownership concentration is also defined as dummy variable 1 if percentages of outstanding stocks owned by shareholders exceed 50% in Ding et al. (2007).

Foreign ownership is also found in companies which are featured as relatively high levels of corporate governance. Jiang and Kim (2004) point out that foreign ownership highly corresponds to earnings timeliness in Japanese firms. In addition, Guo et al. (2014) claim that foreign ownership is associated with less opportunistically earnings manipulations. Following Guo, et al. (2014), I measure this variable as percentage of **foreign ownership**.

The agency problems seriously arise from these state dominated firms because the managers explicitly have no ownership of the assets. Therefore, managers are more likely to excise their discretion in manipulating earnings to serve their own interests. Wang and Yung (2011) particularly state that state owned enterprises are more inclined to distort earnings. Similar to researches of Wang and Yung (2011), I use percentage of **state ownership** as a proxy in the model. Furthermore, state ownership is also defined as dummy variable which is equal to 1 if state ownership is higher than 0, and 0 otherwise in Liu and Lu (2007) and Chen et al. (2014).

Extant literature such as Wang and Yung (2011) and Gonzalez and Meca (2014) highlight **managerial ownership** as an effective mechanism to constrain the opportunistic behavior of management. Consistent with and Yung (2011) and Gonzalez and Meca (2014), I will define the managerial ownership as the percentages of outstanding shares held by management.

4.3.3 Control variables

In accordance with the specifications of other researches (i.e Lo et al., 2010; Ali and Zhang , 2015; Badolato et al., 2015; Ali and Zheng, 2015; Chen et al., 2011; Agrawal and Cooper, 2016; etc.) , I will include Firm size (SIZE), Leverage (LEVER), Growth prospect (GROWTH), Performance (ROA), Audit by Big 4 (AUDIT), Loss (LOSS) and year and industry dummies (YEAR, INDUS) as control variables for this analysis. The inclusion of these control variables is to protect the model from the biased effects of unobserved heterogeneity, improving the statistical power of the test.

I initially control the effect of **firm size** which primarily defined as natural logarithm of book value of total assets at the year end (Guthrie and Sokolowsky, 2010; Badolato et al., 2014). Firm size has long been known in several studies as an influential factor which is related to earnings management in certain manner (Chen et al., 2011). Noe and Rebello (1996) suggest that smaller firms which are somehow distracted by analysts are more likely to suffer from higher effects of information

asymmetry, and inevitably resulting in more accounting frauds compared to larger peers. Larger firms otherwise have more sophisticated internal control system, highly skilled employees, experiencing relentless oversight of board and analysts. Thus, large scaled firms are more often associated with better integrity and accountability of financial information and lower ambiguity than smaller ones (Ali and Zhang, 2015). From these empirical evidences, there are basically negative relationship between firm size and earnings management.

Leverage which is defined as ratio of total debt divided by total assets in Badolato et al. (2014), Ali and Zhang (2015), Chen et al., (2011) is another variable I would like to control in the research model. Managers have several incentives to introduce noise and bias to the financial reports in order to meet the stringent criteria of debt covenants (Dechow et al., 1995; Palepu, al et., 2013). Therefore, there should be positive relationship between corporate debt and the likelihood of fraudulent earnings manipulation.

The 3rd control variable which should be raised concern is **Growth prospect** of firms. Growth is measured as total assets growth, specifically the difference between assets of this year and that of prior year (Ali and Zhang, 2015). The problem of internal control usually emerges when firms grow at such a speedy rate that may temporarily exceed monitoring capacity of board (Jones et al., 2008). McNichols (2000) concludes that firms with greater growth rate are literally subject to higher degree of restated earnings.

I use return on assets (ROA) to cope with **Performance** variable (Badolato et al., 2014; Ali and Zheng, 2015; Chen et al., 2011). Because the firm performance is definitely in line with managers' compensation, they are inclined to get involved in fraudulent accounting practices to meet the threshold set by board of directors. Firms experiencing distress probably employ earnings management at greater extent. A negative relationship between performance and earnings management is then expected (Badolato et al., 2014)

Multiple studies document the relationship between earnings management and the prestige of the external auditing firm especially **Big 4** firms (Lennox 1999). In this case, dummy variable is presented and equal to one if firm is audited by one of Big 4 auditors and 0 otherwise (Kent et al., 2010; Badolato et al., 2014). High profile external auditing firms tend to restrain earnings distortion

and thereby enhancing transparency and quality of audited financial reported (DeFond and Subramanyam, 1998). Higher audit quality restrains the earnings manipulation and cost of equity capital (Chen et al., 2011)

Eventually, firms suffering from negative bottom-line will enable managers to exercise their discretion in earnings management (Nurul et al. 2010). Therefore, the control variable **Loss** is employed in the model. It affords a value of 1 if the firm incurs losses in the last 2 years and, 0 otherwise (Badolato et al., 2014; Ali and Zhang, 2015; Chen et al., 2011). As of Guthrie and Sokolowsky (2010) and Chen et al. (2011), I also include **Year and Industry dummies** to control year and industry effects.

4.4 Data sampling

Secondary data is used for this analysis. A majority of accounting information is primarily extracted from Orbis Database meanwhile data of board characteristics and ownership structure will be manually collected from annual reports of firms listed on Ho Chi Minh City Stock Exchange (HOSE) and Ha Noi Stock Exchange (HNX) from 2010 to 2014. Additionally, I'm supposedly referring to some highly qualified websites in Vietnam, specifically Vietstock website (http://vietstock.vn/) and Cophieu (http://www.cophieu68.vn/) for further scrutiny or reconciliation with each other to assure the consistency and accuracy of the dataset.

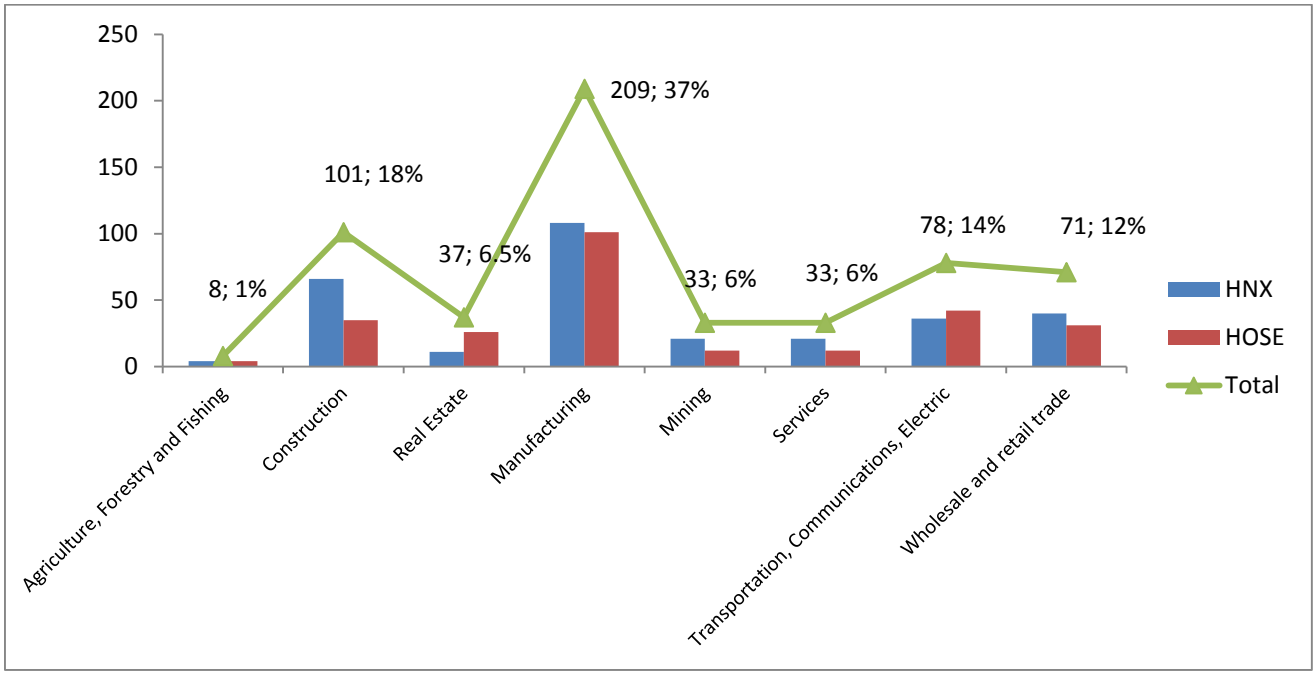
Based on data sourced from Orbis Database, I estimate that the number of listed firms on both stock markets excluding financial institutions is up to 570 firms on December 31st, 2014. The criteria to determine the dataset is applied on a basis of: (1) Firms in financial sector are excluded: the practice of removing financial institutions is attributed to their untypical accounting records and particular working capital structures (Klein, 2002). (2) Firms must have available financial disclosures and corporate governance information from 2010 to 2014. (3) Any listed firms which are less than 2 firms per industry. Since accruals quality, modified Jones model, and performance augmented discretionary accruals used as proxies for earnings management are basically calculated based on lagged and forward year data, earnings management proxies within 5 year rolling window are estimated using observations within 7 years extending from 2009 to 2015. The final data set for examining the extent that board characteristics relate to earnings management ends up with 2654 firm-year observations for 570 firms from 2010 to 2014.

Table 2 displays the total number of non-financial firms in the sample from both HNX and HOSE stock exchange from 2010 to 2014. The whole sample for testing the abovementioned hypothesis is unbalanced panel data set consisted of with 2654 firm-year observations for 570 firms but the data available for specific test will vary due to the availability of financial data. The Vietnamese firms are classified on the basis of two-digit SIC code released by Orbis Database. Excluding financial industry, these SIC codes group firms into 8 broader industries such as real estate, industry, construction, etc. Figure 3 presents the sample according to industrial classification and stock exchange. Manufacturing firms which make the highest group in all account for approximately 37% of the sample. The second largest is construction reaching roughly 18%. The number of firms in HNX stock market literally outnumbers that of HOSE in most industrial sectors. However, HOSE is much more capitalized than HNX when taking up mostly 88 percent of whole market capitalizations (Alphonse, P. and Nguyen T., H.; 2014). Firms in HNX are relatively smaller than HOSE in terms of firm size mainly because the listing applicants for HNX are required to fulfill less stringent conditions than those applied for HOSE.

Table 2: Summary of data selection process of Vietnamese listed firms

Vietnamese listed firms	Number of Firms
Initial dataset (2010-2014)	704
Less: Missing industry classification	-13
Less: listed firms which are financial industries.	-25
Less: listed firms which are less than two firms per industry (according to SIC code).	-2
Less: delisted firms from 2010 to 2014	-23
Less: missing data of financial statements	-21
Less: missing data of corporate governance	-50
Final number of listed firms	**570**

Figure 3: Number of firms by industrial classification and main exchange



Chapter 5: Empirical results

This chapter initially reports the descriptive statistics of all variables. The statistical correlation of all variables is then presented. The empirical results of the tests on the effects board characteristics and ownership structure have on earnings management implemented in ordinary least squared (OLS) regression, random effects and other models are reported case by case.

5.1 Descriptive statistics

Table 3 presents summary statistics for the dependent variable (earnings management), the independent variables, and control variables. Referred to the descriptive results, the dependent variable AQ1 which is estimated from equation (4.3.1.2) has a mean of 0.03 with a standard deviation of 0.02. The maximum and minimum of AQ1 in the sample are 0.53 and roughly 0. The accruals quality found in the sample of listed firms on HOSE and HNX stock exchange from 2010 to 2014 is slightly smaller than 0.06 reported in Hoang et al. (2014) who examine a data set consisted of Vietnamese listed firms from 2005 to 2011. The smaller accruals deviation or higher accruals quality are probably attributed to the improvement of financial disclosures over time and better corporate governance after issuance of the revised Vietnamese Code in July 2012. However, the accruals quality in this sample is still much higher than those found in developed countries (i.e. 0.0054 and 0.0039 in Ali and Zhang (2015) and Cornett et al. (2008) respectively). As other proxies employed for earning management, both absolute value of discretionary accruals AbsDAC and AbsDA have magnitude of mean at 0.11 and 0.09 respectively. The findings are somewhat comparable to what are reported from Chinese market in Wang and Yung (2011), Chen et al. (2011).

As presented in Table 3, board of directors is composed of an average number of 5 people which is literally complied with the criteria stipulated in the Vietnamese Code requiring a board size within a range between 5 and 11 members. The non executive directors (IND) accounts for almost 62% of board which indicates the board composition of Vietnamese listed firms is relatively independent to a certain degree. However, the minimum level of non executive directors is 0 which means some companies already violate one term in Vietnamese code stating that at least one-third of board members must be independent or non executive. In the sample firms, around 37% of all have CEOs holding the position of chairman on board indicating that concentration of power is less prevalent in

Vietnam. The magnitude of combining CEO and Chairman varies greatly from 51.4% according to a study by Duc and Thuy (2013) which examine Vietnamese corporate governance from 2006 to 2011.

With respect to the ownership structure in Vietnamese listed firms, the mean percentage of the state owned equities (STATE_OWN) in sample firms is about 24%. The maximum and minimum are hereby reported as 96.72% and 0. In addition, the board management owns merely 5% of corporate outstanding stocks (OWN_MNG). Foreign investors hold, on average, 3.34% of equities (OWN_FR). The mean percentage of outstanding stocks owned by shareholders who own at least 5% of common stock is around 47% varying wildly from 0% up to 99.46% as the maximum. This result of highly concentrated ownership is aligned with findings from Chen and Huang (2014) who claim that ownership concentration is virtually commonplace in emerging markets. The extreme value of state ownership and ownership concentration is probably due to a few state-owned enterprises in lucrative business sectors such as petroleum or gas whose governmental officers are less likely to lift their grip of corporate ownership against the will of state policy and regulations.

As observed from Table 3, the mean ratio of firm year observations which are basically audited by one of Big 4 auditors is almost 20% which is rather low compared to that in other countries, specifically Australia in Ken el at. (2010) and Latin American ones in Gonzalez and Meca (2014). Regarding to the innate characteristics of firms in the sample, the total assets (SIZE) reach an average of 61.44 mil Euro with a minimum of 0.524 and a maximum of 3,496 mil Euro. As an alternative proxy for firm size, market capitalization of Vietnamese firm has a mean of 39.89 mil Euro. With mean definitely higher than median, the Vietnamese listed firms are mostly characterized as small and medium sized rather than large firms. The total leverage (LEVERTL) defined as total liability over total assets is 51.78%, a little bit higher than the ratio of 47% in Hoang et al. (2014). It is still in line with other studies which document an average total book-debt level of 51% in developing countries though (Booth et al., 2001). Total debt over total assets, another proxy corresponding to leverage is approximately 24%.

Table 3 reports a mean sales growth rate (GROWTHS) of 20.63% which is more or less consistent with the other findings, i.e. global ratio of 24.9% according to Gonzalez and Meca (2014). As another approach to address growth, change of total asset scaled by the total asset at the beginning of year (GROWTHA), which is around 13.34% rather equal to 13.78% documented by Ali and Zhang

(2015). The average ROA and ROE of Vietnamese firms is approximately 7% and 15 % respectively. The mean ROA of Vietnamese firm is particularly higher than global ratio presented in Gonzalez and Meca (2014) and Ali and Zhang (2015). This somehow justifies the higher leverage structure most Vietnamese companies adhere to in comparison to global ratio, thereby reflecting the perspective of risk and return relationship. The mean percentage of companies which have suffered from continual losses in the last 2 years accounts for only 2%. After being hard hit by the financial crisis, Vietnamese firms are seemingly on the recovery when generating favorable profitability and relatively low loss. However, they also raise significant concerns towards their soaring leverage structure mostly due to fiscal stimulus package from the State.

Table 3: Summary statistics of all variables

The table reports descriptive statistics of variables for our sample of 2654 firm-year observations for 570 firms from 2010 to 2014

Panel A: Descriptive statistics for dependent, independent and control variables

Variable	Observations	Mean	Std. Dev.	Median	Min	Max
Dependent variables						
AQ1	2229	0.03	0.02	0.03	0	0.53
DAC	2644	0.01	0.18	0	-1.13	3.63
AbsDAC	2644	0.11	0.14	0.07	0	3.63
DA	2579	0	0.14	0	-0.79	1.53
AbsDA	2579	0.09	0.1	0.06	0	1.53
Independent variables						
BOARD_SIZE	2654	5.46	1.09	5	3	11
IND	2654	62.07	18.07	60	0	100
DUAL	2654	0.37	0.48	0	0	1
OWN_STATE	2654	24.37	24.57	18.75	0	96.72
OWN_MNG	2654	5.57	10.08	1.29	0	84.88
OWN_FR	2654	3.34	9.81	0	0	80.04
OWN_CON	2654	47.17	21.09	51	0	99.46
Dummy variables						
IND50	2654	0.78	0.41	1	0	1
STATE0	2654	0.6	0.49	1	0	1
OWN_CON_d	2654	0.55	0.5	1	0	1
Control variables						
AUDIT	2654	0.2	0.4	1	0	1
Total asset (Mil Euro)	2654	61.44	184.63	16.61	0.524	3,496
Market capitalization (Mil Euro)	2568	39.89	244.17	5.409	0.104	5,177
Sales (Mil Euro)	2654	49	151	14.29	0	2,836
LEVERTL	2654	51.78	21.47	54.49	0.2	94.52
LEVERD	2601	23.69	18.9	22.33	0	75.81
GROWTHS	2650	20.63	64.94	10.06	-77	418.73
GROWTHA	2654	13.34	29.13	7.38	-34.63	172.89
ROA	2654	6.99	8.44	5.02	-12.34	39.96
ROE	2654	14	16	12	-30	72
LOSS	2654	0.02	0.12	0	0	1
NEGDUMDAC1	2644	0.33	0.47	0	0	1
NEGDUMDAC2	2579	0.55	0.5	1	0	1

This table summarizes the descriptive statistics of all variables.

Panel B: Comparison of variables between the pre and post corporate governance code revision

Variables	N	Pre-CGrevision (N = 1022)	N	Post-CGrevision (N = 1096)	Difference
AQ1	770	0.04	758	0.03	0.005***(5.05)
AbsDAC	910	0.13	910	0.09	0.038***(5.80)
AbsDA	875	0.109	910	0.087	0.097*** (4.64)
BOARD_SIZE	1022	5.44	1096	5.47	-0.03 (-0.64)
DUAL	1022	0.42	1096	0.33	0.09*** (4.5)
IND	1022	60.58	1096	63.98	-3.4*** (-4.36)
OWN_STATE	1022	24.74	1096	23.45	1.29 (1.2)
OWN_MNG	1022	5.21	1096	5.73	-0.52 (-1.2)
OWN_FR	1022	2.46	1096	4.23	-1.77*** (-4.16)
OWN_CON	1022	45.24	1096	48.65	-3.42*** (-3.71)

See Table 1 for the definitions of the variables. Robust t-statistics are in parentheses.*, ** and *** denote significance levels at 10%, 5% and 1%, respectively

Revised Vietnamese Code in July 2012

As mentioned in chapter 2, the updated version of Vietnamese Code of internal governance procedures under Circular 121/2012/TT-BTC already sets forth typical corporate charter applicable to all Vietnamese listed firms. I thereby would like to investigate whether the improvement in the monitoring capacity of board by this circular facilitates higher earnings quality in term of diminishing managerial misconducts. The panel B of Table 3 illustrates the change in board characteristics, ownership structure as well as the magnitude of earnings management, contingent upon the revision of the corporate governance code in 2012. The time series averages associated with specific variables are estimated to compare the paired difference between 1022 firm-year observations in pre and 1096 in post CGrevision period.

As displayed in Panel B of Table 3, the percentage of chairman who currently holds the position of CEO drops from 42% to 33% and the result of difference is positively significant. Corresponding to the release of Circular on corporate governance standards, the proportion of external or non executive directors significantly increases from 60.58% to 63.98%. Significant difference is also found in foreign and concentration ownership when the former enjoys 1.77% and the latter rises by 3.42%. Notably, the earnings management in terms of earnings quality (AQ1), absolute value of discretionary accruals (AbsDAC) and discretionary accruals with performance (AbsDA) drop by 0.5%, 3.8% and 9.7% respectively. The univariate analysis hereby confirms significant convergence of outcomes in 3 earning management proxies between pre and post-CGrevision. These findings in Vietnamese listed firms are consistent with extant literature claiming that improvement in corporate governance literally discourages the managers' propensity to engage in earnings management.

Table 4 reports all the results of correlation coefficients between various variables generated from Pearson matrix. The correlation results are primarily used to gain some basic insights into the dataset and examine the issue of multi-collinearity. In general, board of directors and ownership characteristics are somewhat significantly correlated, this situation is also witnessed in other corporate governance researches (i.e Liu and Lu; 2007; Kent et al.; 2010, Badolato et al.; 2014). Most statistically signification correlations do not basically exceed 0.5. According to Bryman and Cramer (2005), the significant correlations between variables within the model should stay lower than 0.8. The results of variance inflation factors (VIF) for both major variables and control variables

are reported in Appendix 1. According to Henseler (2015), the issue of multi-collinearity is evident only when values of VIF exceed 10. As observed from the Appendix 1, most VIF values stay within the range from 1.01 to 1.85, which are mostly lower than the alerting threshold, implying that multi-collinearity does not exist in the model specifications.

Table 4: Pearson Correlation Matrix

	AQ1	BOARD_ SIZE	IND	DUAL	OWN_STATE	OWN_MNG	OWN_FR	OWN_CON	AUDIT	LOG_SIZE	LEVERD	GROWTHS	ROA	LOSS
AQ1	1													
BOARD_SIZE	0.01	1												
IND	0.00	0.09**	1											
DUAL	0.02	-0.01	-0.37**	1										
OWN_STATE	-0.12**	-0.14**	-0.04*	-0.16**	1									
OWN_MNG	0.06**	0.04*	-0.25**	0.39**	-0.33**	1								
OWN_FR	-0.05*	0.23**	0.08**	0.02	-0.18**	0.06**	1							
OWN_CON	-0.08**	0.00	0.13**	-0.17**	0.46**	-0.04*	0.21**	1						
AUDIT	-0.02	0.16**	0.14**	-0.13**	0.03	-0.06**	0.18**	0.17**	1					
LOG_SIZE	0.07**	0.29**	0.03	-0.09**	0.03	0.00	0.14**	0.16**	0.48**	1				
LEVERD	0.25**	0.08**	-0.10**	0.03	-0.02	0.08**	-0.03	0.03	0.04*	0.40**	1			
GROWTHS	0.16**	0.00	0.03	-0.01	-0.1**	0.02	0.00	-0.03	0.05*	0.08***	-0.03	1		
ROA	-0.11**	0.07**	0.06**	-0.03	0.08**	-0.08**	0.06**	0.11**	0.04	-0.02	-0.36**	0.18**	1	
LOSS	0.01	0.02	0.02	0.01	-0.06**	0.00	0.01	-0.03	0.02	0.00	-0.01	0.07**	-0.08**	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

5.2 Multivariate results of the impact of board and ownership characteristics

Table 5 presents the results of OLS regression concerning the effects all corporate governance variables have on accruals quality. As observed from Table 5, the number of members on board of directors or BOARD_SIZE (β=0.033, t-statistics =1.68) has a positive relation to earnings management, but it is only significant at the level of 10% in model 1. It finally ends up with insignificant effects on earnings management when I control other ownership variables in model 3, 4 and 5. The result proves that there is no effect between board size and earnings management therefore undermining hypothesis 1. Likewise, CEO duality (DUAL) is found to have no evidence of a relationship earnings management. As such, the hypothesis 2 cannot be supported in Vietnamese context because the coefficients yield insignificant result. The distinct separation of role between chairman and CEO is also questionable when the chairman who formerly holds a position of CEO may take another position in board of management and appoint his previous subordinate to CEO position just in order to reluctantly satisfy requirement of Vietnamese Code in 2012.

The independence variable (IND) defined as the proportion of non-executives on board is significantly positive associated with earnings management at the same level of 10% in model 1, 3 and 5. The coefficients on earnings management are 0.042 (t-statistics = 1.95), 0.041 (t-statistics = 1.87) and 0.04 (t-statistics = 1.84) in mode 1, 3 and 5 respectively. However, the effect is somehow unclear due to statistically insignificant coefficient of independence (IND50) in model 4 when a dummy variable that takes the value of 1 if board has a majority of outside directors (greater than 50%), and 0 otherwise is employed as another proxy for the degree of independence on board. The positive relationship between independence on earnings management in model 1, 3 is contradictory to hypothesis 3. This result is probably attributable to the inefficient oversight of board when more non-executive directors are introduced to board. It also supports the fact that higher proportion of non-executives on board does not actually promote the independence and accountability of board if the governmental officers or someone who has close relationship with controlling shareholders are appointed as independent directors on board.

Regarding to ownership structure, the ownership concentration (OWN_CON) is found to have no significant effects with earnings management in all models even with different proxies for ownership concentration. The statistically insignificant result thereby refutes the hypothesis 4 which formulates

a negative association between ownership concentration and earnings management. The relatively high correlation between ownership concentration and state ownership in Vietnamese context as presented in Table 4 probably result in this matter. Accounting for more than 60% of the whole sample, SOEs are undertaken as the major engine to nurture the growth of the whole economy in Vietnam. This misleading conception of the government triggers the concentrated ownership of state in most firms although these firms are under pressure of equitization. The inherent concentration structure of SOEs may already capture the effect between ownership concentration and earnings management in the sample of Vietnamese listed firms.

The hypothesis 5 relates to foreign ownership and its function to constrain the managerial distortion of financial information to serve their own interests at the expenses of others. The coefficients on foreign shareholding (OWN_FR) are found to be negatively associated with earnings management, and the coefficient is -0.036 (t-statistics = -1.81) in model 2, -0.038 (t-statistics = -1.86) in model 3 and – 0.038 (t-statistics = -1.98) in model 4 and – 0.035 (t-statistics = -1.76) in model 5. Accordingly, all of them are statistically significant at the level of 10% for the model 2, 3, 5 and at the level of 5% for the model 4. The empirical findings are literally consistent with the prediction of hypothesis 5, suggesting that higher foreign ownership basically helps to curb earnings inflation. The result is similar to Chung et al. (2004), who claim that foreign ownership in Japanese firms is associated with less opportunistically earnings manipulations. In addition, Guo et al. (2014) also report that foreign ownership is associated with less opportunistically earnings manipulations in Japanese firms.

Regarding to other ownership attributes, hypothesis 6a assumes that higher proportion of state ownership (OWN_STATE, STATE0) negatively affects earnings management exercised by managers. However, the empirical test on state ownership proves such a contradictory result to that stipulated by hypothesis 6a. The state ownership is negatively associated with earnings management at the significance level of 1%. The consistent and valid results in all models suggest that higher state shareholding is more likely to discourage the opportunistic behaviors of management in term of deliberately misrepresenting financial reports. The findings are entirely in line with Wang and Yung (2011), Wang and Campbell (2012) in Chinese market and Hoang et al. (2014) in a sample of Vietnamese listed firms. According to Wang and Yung (2011), managers in state-owned enterprises

have fewer incentives to inflate earnings on financial reports thanks to different incentive structure associated with SOEs, specifically guaranteed compensation plan rather than pay for performance scheme and supportive credit conditions provided by state financial institutions. In addition, the square of state ownership is significantly positive at 1% level in model 5, suggesting that when state ownership reaches a certain level, the increase in earnings manipulation is basically evident. This result is consistent with hypothesis 6b and in line with Ding et al. (2007), who claim that state blockholding can be characterized as an effective monitoring mechanism as long as it is not intensively concentrated. The entrenchment theory is whereby justified in the sense that the managers in concentrated SOEs often use their dominant power to expropriate wealth to serve their political or individual interests.

Finally, the hypothesis 7 assumes a negative relation between managerial ownership and earnings management. Managerial ownership initially has no significant effect in model 2. But the result change in model 3 when I include all relevant independent variables to statistically control the board of directors' characteristics. The coefficient of managerial ownership on earnings management is significantly positive (β=0.038, t-statistics =1.73) at the significance level of 10% in model 3. The effect seems unclear when insignificant association on earnings management is found in model 4 and 5. The empirical findings from regression test are unproven to what is stipulated in hypothesis 7.

With respect to control variables, the estimated coefficients on leverage (LEVERD) are consistently positive and statistically significant at 1% level across model 1,2,3,4. The result is as expected and definitely in line with findings from (Klein, 2002), Chen et al. (2011), Gonzalez and Meca (2014). Positive coefficient on leverage indicates that managers tend to distort financial reports to satisfy the requirement of debt covenants (Dechow et al., 1995; Palepu, al et., 2013). In addition, there is a positive association between GROWTHS and earnings management. Significant coefficients are found in all presented models, proving that firms with greater growth rate are literally subject to higher degree of restated earnings (McNichols, 2000). As a proxy for performance, ROA has a significantly negative effect on earnings management regardless of model specifications. It is consistent with Hoang et al. (2014), implying that managers confronting the risks of dismissal may exercise their discretions to inflate earnings to a certain extent in underperforming firms (Wang and Yung, 2011).

Table 5: Impact of board and ownership characteristics on accruals quality – OLS regression

	Model 1	Model 2	Model 3	Model 4	Model 5
BOARD_SIZE	0.033*		0.025	0.032	0.03
	(1.68)		(1.25)	(1.59)	(1.48)
IND	0.042*		0.041*		0.04*
	(1.95)		(1.87)		(1.84)
IND50				0.036	
				(0.72)	
DUAL	-0.005		-0.058	-0.063	-0.045
	(-0.12)		(-1.26)	(-1.4)	(-0.98)
OWN_STATE		-0.101***	-0.086***		-0.315***
		(-4.06)	(-3.39)		(-4.64)
STATE0				-0.214***	
				(-4.87)	
OWN_STATE2					0.246***
					(3.64)
OWN_MNG		0.015	0.038*	0.026	0.031
		(0.74)	(1.73)	(1.2)	(1.43)
OWN_FR		-0.036*	-0.038*	-0.038**	-0.035*
		(-1.81)	(-1.86)	(-1.98)	(-1.76)
OWN_CON		0.006	-0.007		-0.019
		(0.25)	(-0.28)		(-0.78)
OWN_CON_d				-0.037	
				(-0.89)	
AUDIT	-0.09*	-0.053	-0.064	-0.054	-0.051
	(-1.65)	(-0.95)	(-1.16)	(-0.99)	(-0.93)
LOG_SIZE	-0.051**	-0.033	-0.042	-0.051*	-0.063**
	(-1.96)	(-1.3)	(-1.62)	(-1.94)	(-2.34)
LEVERD	0.28***	0.27***	0.275***	0.277***	0.275***
	(11.51)	(11.14)	(11.36)	(11.43)	(11.36)
GROWTHS	0.138***	0.127***	0.127***	0.127***	0.124***
	(6.87)	(6.34)	(6.32)	(6.35)	(6.22)
ROA	-0.064***	-0.05**	-0.052**	-0.052**	-0.052**
	(-2.86)	(-2.24)	(-2.35)	(-2.35)	(-2.32)
LOSS	-0.019	-0.027	-0.026	-0.027	-0.023
	(-0.11)	(-0.16)	(-0.15)	(-0.16)	(-0.13)
_cons	0.242	0.233	0.251	0.365**	0.235
	(1.39)	(1.35)	(1.45)	(2.03)	(1.36)
Industry Fixed effect	Yes	Yes	Yes	Yes	Yes
Year Fixed effect	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.142	0.149	0.153	0.156	0.149
N	2190	2190	2190	2190	2190

The t-values are in parentheses. *, ** and *** denote significance levels at the 10%, 5% and 1%, respectively See Table 1 for the definitions of the variables

5.3 Robustness tests

Although a couple of methods such as non-linearity and different measure of board independence, state ownership and ownership concentration have so far been employed to improve the predictive accuracy of the baseline regression model (4.2.1), the results of the tests are necessarily tested to further its robustness in a certain manner. First, other estimation methods such as random effect, PCSE, FGLS are performed to make sure the results from baseline model are consistent. Second, because the quality of all parametric outcomes is virtually susceptible to the measure of discretionary accruals as the proxy for earnings management, regression will be performed with two other proxies for earnings management, specifically Modified Jones discretionary accruals and performance augmented discretionary accruals. Third, additional tests will be conducted with alternative definitions of control variables in the primary model.

5.3.1 Other estimation methods

I would prefer to adopt random effects model to estimate the extent corporate governance mechanisms are related to earnings management because the fixed effects estimators will exclude any effects corresponding to the time-invariant variables of my interest, i.e. independence (IND50), CEO duality (DUAL) and state ownership (STATE0) in this case. In fact, fixed effects model is though subject to a trade-off in terms of biasness and between subject variability (Allison, 2005). Furthermore, to determine whether any assumptions of panel error structure have been violated, Woodbridge test and modified version of the Wald test are undertaken (See Appendix 2). The significant results of all test statistics evidently show that the panel data for equation 1 and 2 are associated with heteroskedasticity and serial correlation. According to Baltagi (2005), regression variate estimated by either fixed or random effects model will hardly be efficient if heteroskedasticity and serial correlation are evident in the data set. Feasible generalized least squares (FGLS) and panel corrected standard error (PCSE) method are adopted to remedy any disturbances resulting from heteroskedasticity and serial correlation, thereby generating unbiased and consistent estimates of parameters. Indeed, Beck and Katz (1995) recommend that though PCSE gives more accurate estimates than FGLS, either FGLS or PCSE is more efficient than OLS to estimate complicated panel error structures.

The results of PCSE and FGLS model are reported in Table 6 right after the first two columns exhibiting random effects regression. Overall, the estimated parameters including sign and significance degree are almost consistent with the findings documented from OLS regression. Coefficient on independence (IND, IND50) is significantly positive at 10% level in model 1, 5% level in model 3 following PCSE estimates and at 1%, 5% level in model 5 and model 6 respectively under FGLS estimates. The result confirms the fact that higher non-executive directors introduced to board only advocates on higher earnings manipulation. Consistent with Table 5, the coefficient on state ownership (STATE_OWN and STATE0) is significantly negative with earnings management across all regression techniques. It is marginally significant at 10% level in model 1 and highly significant at 1% level regardless of alternative definition of state ownership for the rest, implying that SOEs manipulate earnings to lesser extent than privately-owned firms after controlling for other related board and ownership characteristics, that is consistent with findings documented in Wang and Yung (2011) and Hoang (2014).

There are mixed findings with respect to managerial ownership. Managerial Ownership (OWN_MNG) is significantly and positively associated with earnings management in model 1, 3 and 4 but the effect become insignificant in model 2, 5 and 6. Foreign ownership is negatively related to earnings management. The relationship is particularly significant at 1% level in both models. The presence of foreign investors is apparently strengthening firm monitoring and preventing managers from introducing bias and noise to financial information. Regarding to control variables, most coefficients on leverage, growth are qualitatively similar to those in Table 5 except for ROA. However, in contrast to negative relationship documented in Table 5, the contradictory and insignificant results on the effects between ROA and earnings management are witnessed across models in Table 6.

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Table 6: Regression results from RE, FGLS, and PCSE methods (Dependent variable: AQ1)

	Random Effects		PCSE		FGLS	
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
BOARD_SIZE	0.01	0.015	-0.008	-0.006	0.022***	0.032***
	(0.39)	(0.61)	(-0.62)	(-0.49)	(2.57)	(3.47)
IND	0.048*		0.043**		0.022***	
	(1.93)		(2.18)		(2.56)	
IND50		0.075		0.019		0.045**
		(1.4)		(0.28)		(2.31)
DUAL	-0.015	-0.017	-0.039	-0.061	-0.011	-0.008
	(-0.28)	(-0.32)	(-0.84)	(-1.28)	(-0.59)	(-0.46)
OWN_STATE	-0.059*		-0.075***		-0.058***	
	(-1.9)		(-3.15)		(-5.58)	
STATE0		-0.194***		-0.232***		-0.15***
		(-3.63)		(-3.52)		(-8.21)
OWN_MNG	0.045*	0.03	0.06***	0.044*	0.008	0.004
	(1.78)	(1.22)	(2.78)	(1.84)	(0.75)	(0.39)
OWN_FR	-0.035	-0.043*	-0.051***	-0.06***	-0.025***	-0.035***
	(-1.33)	(-1.73)	(-4.36)	(-5.55)	(-2.6)	(-4.43)
OWN_CON	-0.041		-0.056*		-0.027***	
	(-1.45)		(-1.67)		(-2.57)	
OWN_CON_d		-0.06		-0.085**		-0.063***
		(-1.22)		(-2.55)		(-3.79)
AUDIT	-0.063	-0.059	-0.023	-0.013	-0.165***	-0.141***
	(-0.93)	(-0.87)	(-0.24)	(-0.14)	(-7.24)	(-6.52)
LOG_SIZE	-0.058*	-0.066*	-0.056**	-0.063**	0.004	-0.007
	(-1.73)	(-1.95)	(-2.08)	(-2.22)	(0.32)	(-0.52)
LEVERD	0.352***	0.353***	0.351***	0.35***	0.287***	0.287***
	(12.16)	(12.21)	(7.1)	(6.79)	(23.29)	(23.83)
GROWTHS	0.112***	0.113***	0.107***	0.106***	0.049***	0.053***
	(6.11)	(6.17)	(2.67)	(2.65)	(6.81)	(7.95)
ROA	0.038	0.036	0.031	0.029	-0.012	-0.014
	(1.6)	(1.53)	(0.69)	(0.64)	(-1.27)	(-1.52)
LOSS	-0.251	-0.256*	-0.133	-0.132	-0.025	-0.03
	(-1.61)	(-1.65)	(-0.59)	(-0.6)	(-0.69)	(-1.05)
_cons	0.024	0.115	0.11**	0.285***	0.007	0.082***
	(0.64)	(1.63)	(2.01)	(3.03)	(0.52)	(3.04)
Adjusted R^2	0.108	0.111	0.123	0.125		
N	2190	2190	2190	2190	2171	2171

The t-values are in parentheses. *, ** and *** denote significance levels at the 10%, 5% and 1%, respectively
See Table 1 for the definitions of the variables

5.3.2 OLS regression with alternative definitions of dependent variables

With two alternative proxies for earnings management determined from equation (4.3.1.5) & (4.3.1.8), statistical procedures are repeated on the primary models including same independent and control variables. The Table 7 reports the regression scrutinizing the association between corporate governance mechanisms and absolute value of discretionary accruals. The adjusted R-squared in these models ranges from 6.19% to 8.7%, which indicates that the explanatory power of these models using discretionary accruals as a proxy for earnings management is relatively low compared to accruals quality. Alternatively, the construct of discretionary accruals is less compatible to the model specifications than that of accruals quality.

In contrast to the baseline model regressing the earnings quality on corporate governance variables, the number of directors on board (BOARD_SIZE) has a significantly negative relationship with discretionary accruals at 5% level in model 1, 3, 4, 5 and 6. The monitoring function of board size only corresponds to earnings management in term of abnormal accruals but not accruals quality in Table 5 and 6. The results on independence of board are mostly insignificant except for model 2. However, the effect is opposite to what is observed in Table 5, 6, suggesting that the relationship between independence and earnings management is inclusive in this study.

Consistent with results from Table 5 and 6, state ownership has a negative effect with discretionary accruals derived from both Dechow et al. (1995) and Kothari et al. (2005) model. The coefficient is marginally significant in model 4 at 10% level and highly significant in model 2, 3, 5, 6 at the same 1% level. The non-linear relationship between state ownership and discretionary accruals are also found in model 3, 6 in which the coefficients on the square state ownership are significantly positive at 1% level. The robust results of state ownership imply that an increase of state ownership facilitates the monitoring function of firms but the effect is only evident in case of moderate level of state ownership. Similar to previous findings, foreign ownership is negatively related to earnings management although the coefficient concerning performance augmented discretionary accruals is only significant at 10% and 5% level. However, the result seems creditworthy because performance augmented discretionary accruals model including the intercept and ROA is featured as more predictive accuracy and explanatory power (Dechow et al., 2010). Regarding to control variables, leverage and growth prospects yield substantially similar results to preceding regression models.

Table 7: Comparison of models of discretionary accruals

	AbsDAC			AbsDA		
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
BOARD_SIZE	-0.041**	-0.033	-0.036*	-0.05**	-0.044**	-0.046**
	(-1.97)	(-1.62)	(-1.75)	(-2.4)	(-2.1)	(-2.2)
IND	-0.013		-0.013	0.004		0
	(-0.61)		(-0.59)	(-0.01)		(0)
IND50		-0.119**			-0.046	
		(-2.44)			(-0.91)	
DUAL	-0.004	-0.007	0.008	-0.042	-0.039	-0.031
	(-0.09)	(-0.16)	(0.17)	(-0.89)	(-0.85)	(-0.67)
OWN_STATE	-0.038		-0.252***	-0.049*		-0.239***
	(-1.48)		(-3.71)	(-1.88)		(-3.45)
STATE0		-0.152***			-0.157***	
		(-3.45)			(-3.51)	
OWN_STATE2			0.23***			0.203***
			(3.4)			(2.96)
OWN_MNG	0.027	0.013	0.021	0.027	0.016	0.022
	(1.2)	(0.58)	(0.94)	(1.18)	(0.71)	(0.95)
OWN_FR	-0.023	-0.029	-0.021	-0.041*	-0.045**	-0.039*
	(-1.08)	(-1.43)	(-0.97)	(-1.91)	(-2.19)	(-1.82)
OWN_CON	0.019		0.007	0.014		0.004
	(0.79)		(0.3)	(0.57)		(0.14)
OWN_CON_d		0.075*			0.036	
		(1.82)			(0.86)	
AUDIT	-0.038	-0.036	-0.025	-0.047	-0.043	-0.035
	(-0.67)	(-0.65)	(-0.45)	(-0.82)	(-0.75)	(-0.62)
LOG_SIZE	-0.034	-0.046*	-0.052*	0.013	0.003	-0.004
	(-1.27)	(-1.73)	(-1.94)	(0.48)	(0.12)	(-0.15)
LEVERD	0.087***	0.086***	0.087***	0.04*	0.042*	0.041*
	(3.59)	(3.58)	(3.6)	(1.65)	(1.71)	(1.66)
GROWTHS	0.103***	0.101***	0.1***	0.078***	0.077***	0.076***
	(5.03)	(4.95)	(4.9)	(3.65)	(3.59)	(3.54)
ROA	0.101***	0.101***	0.102***	0.091***	0.091***	0.092***
	(4.46)	(4.48)	(4.52)	(3.94)	(3.97)	(4)
LOSS	0.014	0.01	0.006	0.057	0.049	0.049
	(0.09)	(0.06)	(0.03)	(0.36)	(0.31)	(0.31)
_cons	0.523***	0.648***	0.52***	0.037	0.135	0.033
	(3.18)	(3.8)	(3.17)	(0.22)	(0.78)	(0.2)
Industry Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	0.082	0.088	0.086	0.06	0.065	0.065
N	2591	2591	2591	2526	2526	2526

The t-values are in parentheses. ∗, ∗∗ and ∗∗∗ denote significance levels at the 10%, 5% and 1%, respectively See Table 1 for the definitions of the variables

5.3.3 OLS analysis with alternative control variables

I investigate the robustness of the model by incorporating different measures of control variables. Consistent with Ali and Zhang (2015), I prefer to measure the control variable LOG_SIZEE and GROWTHA as log of market value of equity and total assets growth respectively. In addition, LEVERTL will be alternatively defined as total liabilities over total assets. ROA is replaced by ROE in Houqe et al. (2007).

Table 8 reports the regression results of equation (4.2.1) after substituting firm size, growth prospect and ROA with above-mentioned measurements. The results are qualitatively the same to the main findings with state ownership (OWN_STATE) significantly and negatively related to earnings management across the models. Consistent with Wang and Yung (2011), Wang and Campbell (2012) and Hoang et al. (2014), I hereby conclude that there is a negative association between state ownership and earnings management in Vietnamese context. Additionally, the effect of foreign ownership (OWN_FR) also remains negative and highly significant relative to accruals quality at the level of 1%. The effect between foreign ownership and discretionary accruals is consistently negative in all models but it only has a weak significant relationship with discretionary accruals at 10% level in model 6. The results are somehow similar to Kent et al. (2010) who claim that the effect of governance mechanisms is stronger on accruals quality than discretionary accruals. My findings are totally in line with Chung et al. (2004) and Guo et al. (2014), who also find a negative association between foreign ownership and earnings management.

Table 8: Regression results with alternative control variables

	AQ1		AbsDAC		AbsDA	
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
BOARD_SIZE	0.03**	0.033**	-0.04**	-0.035**	-0.057***	-0.05***
	(2.02)	(2.24)	(-2.5)	(-2.14)	(-2.93)	(-2.6)
IND	0.014		-0.016		0.004	
	(0.86)		(-0.94)		(0.2)	
IND50		-0.005		-0.059		-0.001
		(-0.12)		(-1.53)		(-0.01)
DUAL	-0.042	-0.045	-0.006	0.004	-0.04	-0.028
	(-1.22)	(-1.34)	(-0.16)	(0.12)	(-0.91)	(-0.66)
OWN_STATE	-0.053***		-0.028		-0.05**	
	(-2.67)		(-1.35)		(-2.01)	
STATE0		-0.112***		-0.108***		-0.144***
		(-3.3)		(-3.02)		(-3.35)
OWN_MNG	0.014	0.01	0.009	0.001	0.018	0.01
	(0.86)	(0.62)	(0.48)	(0.06)	(0.82)	(0.47)
OWN_FR	-0.041***	-0.039***	-0.015	-0.021	-0.031	-0.036*
	(-2.74)	(-2.77)	(-0.91)	(-1.36)	(-1.56)	(-1.88)
OWN_CON	0.001		0.007		-0.004	
	(0.06)		(0.34)		(-0.17)	
OWN_CON_d		-0.02		0.062*		0.014
		(-0.63)		(1.87)		(0.36)
AUDIT	-0.108***	-0.106***	-0.057	-0.06	-0.04	-0.04
	(-2.65)	(-2.6)	(-1.29)	(-1.38)	(-0.76)	(-0.77)
LOG_SIZEE	0.055***	0.053***	-0.001	-0.01	0.005	-0.003
	(3.03)	(2.87)	(-0.05)	(-0.53)	(0.24)	(-0.11)
LEVERTL	0.08***	0.078***	0.023	0.023	0.019	0.02
	(5.03)	(4.92)	(1.39)	(1.4)	(0.96)	(1.02)
GROWTHA	0.31***	0.31***	0.153***	0.149***	0.185***	0.182***
	(14.89)	(14.95)	(7.05)	(6.89)	(7.13)	(7.03)
ROE	-0.247***	-0.247***	0.016	0.018	0.011	0.013
	(-13.96)	(-14)	(0.87)	(0.99)	(0.48)	(0.57)
LOSS	0.107	0.108	0.067	0.063	0.078	0.07
	(0.91)	(0.91)	(0.56)	(0.53)	(0.55)	(0.49)
_cons	0.336**	0.423***	0.567***	0.637***	-0.03	0.051
	(2.47)	(3.01)	(4.27)	(4.62)	(-0.19)	(0.3)
Industry Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.203	0.204	0.072	0.075	0.054	0.056
N	1974	1974	2349	2349	2327	2327

The t-values are in parentheses. ∗, ∗∗ and ∗∗∗ denote significance levels at the 10%, 5% and 1%, respectively
See Table 1 for the definitions of the variables

5.4 Additional Analysis

First, OLS regression is performed in each sub-period before and after the revision of corporate governance code in 2012. Second, the interaction of various corporate governance mechanisms and leverage will be addressed. Finally, the practice of smoothing earnings to aim for short term targets is examined thereafter.

5.4.1 The effect of the revised corporate governance code in 2012

Table 9 presents regression results concerning the impact of board characteristics and ownership structure on earnings management. On the basis of the baseline model (4.2.1), regression will be run separately for Pre and Post corporate governance revision (CGrevision) periods. The proportion of non-executives on board (IND) is basically negatively related to earnings management in pre-CGrevision period but the effect is insignificant. The relationship between independence and earnings management changes dramatically when being tested. The coefficient on independence is positive and significant at the 1% level in post CGrevision sub-period. The inconsistent result of independence corresponding to each time span supports the argument that firms opportunistically appoint interests affiliated directors or state officers on board to resist the mandatory requirement of revised corporate governance code, accordingly undermining the monitoring function of board independence (Fan, et al., 2007).

Consistent with the empirical findings from Table 5, 6, 7 and 8, state ownership is negatively associated with earnings management in all models across the timeline. The relationship is marginally significant at the level of 10% before the issuance of corporate governance circular and become highly significant at the level of 1% in the post-CGrevision period. The results further confirm that having state-controlled stakes in firm obviously mitigates the management's incentives to misleadingly inflate the bottom-line. Foreign ownership has a significantly negative effect on earnings management in both post CGrevision period at 10% level whereas insignificant in pre CGrevision period. The effect though appearing to be relatively weak underscores the improvement of corporate governance practices after the corporate governance circular together with a series of SOE restructuring plan is under enforcement by the authority in 2012 to lift the cap on some previously state-dominated sectors, promoting the investment environment in terms of transparency and credibility.

Table 9 : Regression results across subperiods, Pre and Post-revision of corporate governance code in 2012 (Dependant variable AQ1)

	Pre-CGrevision (2010-2011)	Post-CGrevision (2013-2014)
BOARD_SIZE	0.042	0.019
	(0.97)	(0.76)
IND	-0.024	0.101***
	(-0.52)	(3.87)
DUAL	-0.129	0
	(-1.38)	(0.01)
OWN_STATE	-0.096*	-0.084***
	(-1.77)	(-2.82)
OWN_MNG	0.07	0.013
	(1.6)	(0.49)
OWN_FR	-0.024	-0.041*
	(-0.52)	(-1.83)
OWN_CON	-0.01	-0.002
	(-0.19)	(-0.09)
AUDIT	0.003	-0.209***
	(0.02)	(-3.18)
LOG_SIZE	-0.095*	0.018
	(-1.75)	(0.57)
LEVERD	0.349***	0.226***
	(6.83)	(7.77)
GROWTHS	0.172***	0.087***
	(4.42)	(3.53)
ROA	0.055	-0.151***
	(1.24)	(-5.07)
LOSS	0.367	0.003
	(0.31)	(0.02)
_cons	-0.186	0.391*
	(-0.54)	(1.87)
Industry Fixed effect	Yes	Yes
Year Fixed effect	Yes	Yes
Adjusted R^2	0.121	0.199
N	853	874

The t-values are in parentheses. *, ** and *** denote significance levels at the 10%, 5% and 1%, respectively. See Table 1 for the definitions of the variables

5.4.2 Analysis with interaction terms

- *Board characteristics, ownership structure and leverage*

As mentioned earlier in literature review section, managers have incentives to make discretionary decisions in financial reports to avoid violating accounting-based covenants with the creditors. The risk of default is serious to the all firms' stakeholders in terms of undermining the management status and increasing interest cost unless renegotiation is favorable. Thus, effective corporate governance mechanisms used to align the managers' incentives with those of shareholders will probably help to account for risks incurred in highly debt financing firms. In addition, agency theory suggests that managers can expropriate wealth of shareholders by investing free cash flow in projects with lower returns than the cost of capital. Debt financing in corporate capital structure will help to alleviate agency costs by enlarging manager's fraction of the equity. On the other hand, leverage may also trigger a conflict of interests between shareholders and bondholders when shareholders prefer risk taking projects against the will of bondholders.

Table 10 presents the results of corporate governance mechanisms as well as their interaction with leverage on earnings management. The dependant variables in use are AQ1, AbsDAC and AbsDA. Following Guthrie and Sokolowsky (2010), I winsorize the two latter proxies for discretionary accruals at the top and bottom 1%. As observed from Table 10, there is a significantly positive association between leverage (LEVERD) and accruals quality at 1% level across the models. Particularly, the interaction term between duality and leverage exhibits positive and significant coefficients (with 0.168 in column 2 and 0.134 in column 3, both significant at 1% level). The empirical findings are in line with Klein (2002) and Lo et al. (2010), suggesting that duality authorizes CEO immense power in the company to make easy decision in earnings distortion especially under the pressure of violating debt covenants. Conversely, the interaction between managerial ownership and leverage is negatively associated with earnings management. The OWN_MNG*Leverage (-0.067 and -0.083) is significant at 10% and 5% level in column 1, 2 respectively. These results also give full support to agency theory which suggests higher managerial ownership literally curbs agency cost. In other words, allocating more shares to management will keep the interests of all parties more aligned and enhance the monitoring function due to creditors' involvement, thereby discouraging earnings manipulation in high levered firms.

Table 10: Regression results of interaction with leverage

	AQ1	AbsDAC	AbsDA
BOARD_SIZE	0.009	-0.059*	-0.058*
	(0.28)	(-1.77)	(-1.68)
IND	0.098***	-0.033	-0.043
	(2.67)	(-0.93)	(-1.17)
DUAL	-0.03	-0.235***	-0.23***
	(-0.4)	(-3.26)	(-3.11)
OWN_STATE	-0.127***	-0.026	-0.075*
	(-3.09)	(-0.63)	(-1.78)
OWN_MNG	0.092**	0.081**	0.062
	(2.55)	(2.19)	(1.62)
OWN_FR	-0.061*	-0.068*	-0.086**
	(-1.73)	(-1.86)	(-2.3)
OWN_CON	-0.003	-0.053	-0.03
	(-0.07)	(-1.36)	(-0.76)
Board_size*Leverage	0.053	0.039	0.029
	(0.53)	(0.38)	(0.28)
Independence*Leverage	-0.156*	0.077	0.114
	(-1.95)	(1)	(1.45)
Duality*Leverage	-0.021	0.168***	0.134***
	(-0.52)	(4.26)	(3.31)
OWN_STATE*Leverage	0.055	-0.044	0.019
	(1.13)	(-0.92)	(0.38)
OWN_MNG*Leverage	-0.067*	-0.083**	-0.048
	(-1.73)	(-2.08)	(-1.18)
OWN_FR*Leverage	0.026	0.033	0.04
	(0.74)	(0.93)	(1.09)
OWN_CON*Leverage	-0.003	0.208***	0.111
	(-0.05)	(3.07)	(1.57)
AUDIT	-0.065	-0.042	-0.033
	(-1.18)	(-0.75)	(-0.57)
LOG_SIZE	-0.041	-0.017	0.016
	(-1.55)	(-0.66)	(0.6)
LEVERD	0.37***	-0.236*	-0.256*
	(2.8)	(-1.8)	(-1.9)
GROWTHS	0.123***	0.104***	0.071***
	(6.1)	(5.16)	(3.28)
ROA	-0.047**	0.107***	0.079***
	(-2.1)	(4.76)	(3.39)
LOSS	-0.024	0.034	0.044
	(-0.14)	(0.22)	(0.28)
_cons	0.256	0.651***	0.1
	(1.46)	(3.94)	(0.59)
Industry Fixed effect	Yes	Yes	Yes
Year Fixed effect	Yes	Yes	Yes
Adjusted R^2	0.146	0.088	0.054
N	2190	2591	2526

The t-values are in parentheses. *, ** and *** denote significance levels at the 10%, 5% and 1%, respectively
See Table 1 for the definitions of the variables

❖ *Earnings manipulation around pre-specified targets*

According to Bannister and Newman (1996), it is becoming prevalent and relentless for firms to exercise earnings smoothing over consecutive accounting periods. Managers in firms facing financial distress or potential losses have more incentives to manipulate earnings to avoid violating debt covenants, surging financial expenses and losing future capital inflows. The typical example of earnings smoothing is the practice of earnings level benchmark (DeFond and Park, 1997). Specifically, managers use their discretion to tailor the unmanaged earnings to pre-determined targets and report the targets thereafter. Albeit in sometimes characterized as efficient practice if the managers intend to reflect the "real" economic outcome by dampening the volatility of income due to seasonality, income smoothing is particularly considered opportunistic practices if managers employ it to maximize their utility at the expenses of stockholders (Burgstahler and Dichev, 1997).

According to Park and Shin (2004), there are two specific earnings targets firms are not supposed to undershoot. The first target is zero earnings. Reporting earnings lower than this threshold or losses is basically not what managers expect to do. The second target is last year's reported earnings. Managers indeed prefer to report higher earnings level compared to what is shown up in prior accounting period. Following Park and Shin (2004), I obtain unmanaged earnings by subtracting the discretionary accruals (DAC) from the reported earnings. Accordingly, with regressions using discretionary accruals generated from Dechow et al. (1995) model, the NEGDUMDAC1 is 1 when unmanaged earnings are below zero earnings (Target1), while NEGDUMDAC2 is 1 when unmanaged earnings are below the previous year's reported earnings (Target2).

Table 11 reports all regression results of discretionary accruals and with subperiod dummy (NEGDUMDAC1 and NEGDUMDAC2). The adjusted R-squared jumps up to 44% and 43% for model 1 and 2 respectively, which indicates that the explanatory power of this model increases substantially after incorporating two dummies of earnings benchmark. Both two target dummies (NEGDUMDAC1 and NEGDUMDAC2) is significantly and positively related to discretionary accruals at 1% level, indicating that firms are more likely to engage with income-increasing accrual when they fail to meet the earnings targets. The number of board members, BOARD_SIZE, has a significantly negative effect with abnormal accruals in both models (β= -0.183, t-statistics =-3.34 for model 1 and β= -0.089, t-statistics =-2.04 for model 2). In other words, larger board size is more

likely to mitigate earnings manipulation when firms fail to meet earnings targets. The result is in line with agency theory implying larger board size increases the likelihood that truthfully independent directors who have no interest affiliated to firms enter the board, improving the monitoring capacity of board (Coles et al., 2006).

The coefficient of state ownership (OWN_STATE) is still significantly negative at 1% level in both models, confirming the validity of previous findings. Managers in SOEs are held less accountable for the corporate performance even in tough time due to the fixed compensation and ultimate protection from the state (Wang and Dung, 2011). On the other hand, the negative association between foreign ownership and earnings management is not significant across two models. The explanation for this empirical result is that when firms fail to meet pre-specified earnings benchmarks, the pressure to prevent firms from violating debt covenants and frustrating potential investors will hold the interests between foreign shareholders and managers in line, thus earnings management is becoming inevitable.

Table 11: Regression of abnormal accruals with subperiod dummy (Dependent variable DAC)

	DAC	
NEGDUMDAC1	1.625***	
	(8.03)	
NEGDUMDAC2		1.188***
		(8.28)
Board_size*NEGDUMDAC1	-0.211***	
	(-2.8)	
Board_size*NEGDUMDAC2		-0.095*
		(-1.81)
Independence*NEGDUMDAC1	-0.013	
	(-0.26)	
Independence*NEGDUMDAC2		-0.012
		(-0.32)
Duality*NEGDUMDAC1	0.036	
	(1.58)	
Duality*NEGDUMDAC2		0.023
		(1.2)
OWN_STATE*NEGDUMDAC1	-0.052**	
	(-2)	
OWN_STATE*NEGDUMDAC2		-0.048**
		(-2.12)
OWN_FR*NEGDUMDAC1	-0.001	
	(-0.05)	
OWN_FR*NEGDUMDAC2		-0.01
		(-0.61)
AUDIT	-0.044	-0.038
	(-0.91)	(-0.92)
LOG_SIZE	0.049**	0.027
	(2.22)	(1.36)
LEVERD	0.061***	0.09***
	(2.97)	(4.99)
GROWTHS	0.003	0.039**
	(0.19)	(2.49)
ROA	0.213***	0.097***
	(10.82)	(5.7)
LOSS	-0.17	0.261**
	(-1.25)	(2.22)
_cons	-0.355**	-0.535***
	(-2.33)	(-3.76)
Industry Fixed effect	Yes	Yes
Year Fixed effect	Yes	Yes
Adjusted R2	0.326	0.368
N	2591	2526

The t-values are in parentheses. ∗, ∗∗ and ∗∗∗ denote significance levels at the 10%, 5% and 1%, respectively.
See Appendix 1 for the definitions of the variables

Chapter 6 Conclusions

In this chapter, main findings will initially be summarized. Then major theoretical and practical implications regarding to the effectiveness of board and ownership characteristics will be discussed. Third, certain limitations of this research will be presented. Finally, a couple of recommendations will be mentioned for future research

6.1 Findings and implications

6.1.1 Summary of findings

The thesis research investigates the extent whether board of directors and ownership characteristics are related to the practice of earnings management in Vietnamese listed firms. Based on the sample of 570 non financial firms from 2010 to 2014, the study shows a non significant effect of board size on accruals quality, a proxy for earnings management in the baseline model. Although having little effect on accruals quality, board size is found to be more sensitive to discretionary accruals. Not only board size but also the interaction between itself and earnings target is significantly and negatively associated with discretionary accruals. The result is literally inclusive to the prediction of hypothesis stipulating that a larger board is more likely to enhance the level of earnings management.

Both CEO duality and independence have insignificant relationship with earnings management. The empirical findings are consistent with Rahman and Ali (2006) and Kent et al. (2010) who conclude that a CEO occupying position of chairman has no relationship with managerial behavior to exercise fraudulent accounting practices. The result that presence of non-executive directors on boards has no effect with earnings management is also documented in Park and Shin (2004). Additionally, I find no empirical evidence that board characteristics become more effective to counteract managerial wrongdoings after the revision of Corporate Governance Code in 2012 although there is significant improvement in the magnitude of CEO duality and independence in univariate analysis.

Possible explanations for having non-executive directors on board does not necessarily help to mitigate earnings management in either pre or post circular period regardless are suggested as followed. First, non-executive directors introduced to board are not actually independent in its innate quality. Firms may opportunistically appoint interests affiliated directors or state officers on board to

resist the mandatory requirement of corporate governance circular, accordingly undermining the monitoring function of board independence (Fan, et al., 2007). Gonzalez and Meca (2014) also point out that grey directors who have family or professional relationship with the company or its top management will dilute the monitoring role of board. Second, limited rotation of independent members is probably another reason when long term relationship between independent and other board members can also trigger business connection. Finally, appointed directors may not be qualified due to their insufficient financial expertise (Park and Shin, 2004).

Regarding ownership characteristics, the empirical research finds a significantly negative association between state ownership and earnings management. The finding is consistent with Wang and Yung (2011), Wang and Campbell (2012) and Hoang et al. (2014). As such, managers in SOEs are held less accountable for the corporate performance even in tough time due to the fixed compensation plan and ultimate protection from the state in term of supportive credit conditions (Wang and Dung, 2011). However, when state shareholding reaches a certain level, it will evidently shake up the manipulative practices in financial reports. The non-linear relationship between state ownership and earnings management is also documented in Ding et al. (2007) who claim that state blockholding might be characterized as an effective monitoring mechanism as long as it is not intensively concentrated. The entrenchment theory is thereby justified in the sense that the managers in concentrated SOEs often use their dominant power to expropriate wealth to serve their political or individual interests.

The empirical results also suggest that foreign ownership has limited effect on reducing opportunistic behavior of managers to engage with earnings distortion and financial frauds. Consistent with Chung et al. (2004) and Guo et al. (2014), the findings imply that introduction of foreign shareholding in ownership structure enhances monitoring function, alleviates information asymmetry, accordingly resulting in the decrease in earnings management. The effects of state and foreign ownership seem to echo after the issuance of Corporate Governance Circular in 2012 which creates a critical guideline for board governance, paving wave for foreign investments and facilitating further SOEs equitization in Vietnamese firms. Contradictory to stipulated hypotheses, both managerial ownership and ownership concentration have no significant effect on earnings management.

Finally, the interaction analysis indicates that CEOs concurrently holding the position of chairman have more incentives to inflate earnings in highly levered firms. Endowed with concentrated power, the dual CEOs are more likely to make discretion in reporting earnings in order to satisfy debt covenants. In contrast, managerial ownership is found to curb earnings manipulations when firms are highly financed with debt. In line with agency theory, the findings indicate that firms with higher creditors' involvement due to soaring debt level should allocate more shares to managers in purpose of enhancing the monitoring function of board.

6.1.2 Theoretical and practical implications

The study has provided critical insights to the extant literature concerning the effect between corporate governance mechanisms and earnings management. First, it enhances the scope of corporate governance and its effectiveness relative to earnings management in developing country with transitional economy, specifically Vietnam where weak protection of minority shareholders and legal framework are apparently witnessed. In addition, the study sheds light upon the conflicting evidences regarding to the divergence of earnings quality between state owned enterprises and private firms. Second, significant effects of specific ownership attributes as well as the moderating effect of corporate governance on leverage and income smoothing in Vietnamese listed firms are fully supportive of agency theory and stakeholder theory, suggesting that only one theory cannot be applicable to all situations. Finally, it enriches the current literature by employing different proxies of earnings management to investigate the predictive accuracy associated with each specific measure in Vietnamese context.

This study also provides ample practical implications for policy makers. The release and enforcement of Corporate Governance Circular in 2012 does not basically result in boards' effectiveness to constrain the opportunistic behavior of management. Therefore, the argument underlying the adoption of Anglo-Saxon corporate governance model as typical model for diverse institutional settings is somewhat irrational (Sanchez-Ballesta and Garcia-Meca 2007). Indeed, the adaptability of the western model into the Vietnamese context rather than copying the OECD model should be promoted. Instead of issuing mandatory corporate governance code which is technically unaccompanied with critical sanctions, authority should probably impose more material penalties and strengthen their enforcement to keep the firms liable to their disclosures. Additionally, further reform

in terms of legal framework, administrative procedure, financial and board disclosures and regulatory oversight should be on the authority's agenda to enhance the transparency of accounting reports and protection for minority shareholders. Third, the empirical findings imply moderate level of state ownership and the engagement of foreign investors reduce the magnitude of earnings management in Vietnamese firms. Thus, the process of SOEs equitization in various sectors should be accelerated to attract strategic foreign investors and thereby gradually reducing the presence of state as a controlling shareholder.

6.2 Limitations and recommendations

Although this study provides a number of insights, some of its caveats should be addressed. First, the study is conducted to examine the effects of board and ownership characteristics on earnings management in Vietnamese listed firms. Moreover, the sample size of 570 firms is relatively comparable other studies but failing to consider the heterogeneity of corporate governance on earnings management in different contexts, therefore undermining generalizability of this study. Future research can extent the to more dispersed time-series analysis of these effects (Hoang et al.; 2014). Furthermore, it would also be interesting to make a comparative analysis with other developed countries to consider the extent to which the effects may vary relative to specific institutional backgrounds and protection environments in order to assess the generalizability of the results.

Second, board and ownership characteristics have so far been assumed to have an effect on earnings management in this study, but the likelihood that board and ownership attributes are explained by the magnitude of accruals quality or discretionary accruals raise certain concerns about the endogeneity issue (Kent et al., 2010). Later research can adopt some estimation methods, i.e. two-stage least square to clarify whether the firms with higher level of earnings management will appoint directors or audit committees fit it their pre-specified criteria (Lin et. al, 2011).

Third, although three specific proxies for earnings management including accruals quality, discretionary accruals and performance augmented discretionary accruals have been employed for the analysis, there is no mutual concession on the correct measurement for earnings management in extant literature. So the analysis results may be exposed to probability of estimation errors. Future research might examine the effects of corporate governance have on other proxies of earnings

management, for example either related party transactions in Lo et al. (2010), or real earnings management in Guo et al. (2014). Similar to that in Francis et al. (2004) and Dechow et al., (2010), a comprehensive analysis of earnings quality which conveys seven earnings attributes can particularly give meaningful results in Vietnam market.

Finally, the data availability of board of directors and ownership characteristics also exerts a critical impact on the final result. Missing data makes the findings vulnerable to type II error as these companies with limited disclosures of corporate governance facts are more likely to engage in earnings management. In addition, because the findings raise a concern about the presence of governmental officers or affiliated interest directors or directors with insufficient expertise on board that undermines the effectiveness of independence. Future study may investigate the effects of those attributes in board of directors or even in the control board which is not in the scope of this study.

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Appendixes

Appendix 1: Collinearity Diagnostics

Variable (Equation 4.2.1)	VIF	1/VIF
LOG_SIZE	1.83	0.55
OWN_STATE	1.68	0.60
OWN_CON	1.55	0.64
AUDIT	1.47	0.68
LEVERD	1.47	0.68
OWN_MNG	1.43	0.70
DUAL	1.36	0.73
IND	1.29	0.77
OWN_FR	1.26	0.80
ROA	1.25	0.80
BOARD_SIZE	1.17	0.86
GROWTHS	1.08	0.93
LOSS	1.03	0.97
Mean VIF	1.37	

Variable (Equation 4.2.2)	VIF	1/VIF
LOG_SIZE	1.85	0.54
STATE0	1.26	0.79
OWN_CON_d	1.16	0.87
AUDIT	1.46	0.68
LEVERD	1.46	0.68
OWN_MNG	1.36	0.74
DUAL	1.3	0.77
IND50	1.14	0.87
OWN_FR	1.16	0.86
ROA	1.25	0.80
BOARD_SIZE	1.16	0.86
GROWTHS	1.07	0.93
LOSS	1.03	0.97
Mean VIF	1.28	

Appendix 2: Panel data assumption diagnostics

Wooldridge test for autocorrelation in panel

H0: no first order autocorrelation

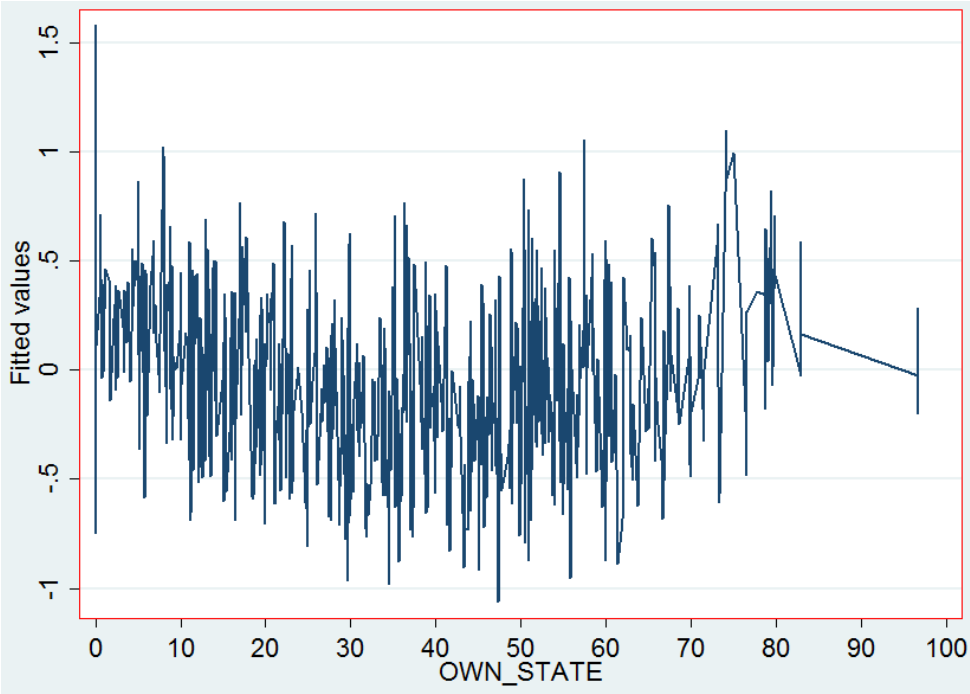
	Equation 4.2.1	Equation 4.2.2
F(1, 455) =	181.304	160.334
Prob > F =	0	0

Modified Wald test for groupwise heteroskedasticity in fixed effect regression model

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

	Equation 4.2.1	Equation 4.2.2
chi2 (514) =	3.60E+35	1.2E+34
Prob>chi2 =	0	0

Appendix 3: Graph of non-linear relationship between state ownership and earnings management



Appendix 4: Summary of main articles

Study	Author(s)	Main purpose	Sample	Methodology	Main findings
1. Does Corporate Governance Influence Earnings Management in Latin American Markets?	Gonzalez, and Meca (2014)	Examine the relation between the internal mechanisms of Corporate Governance and Earnings Management measured by discretionary accrual.	435 firms from Argentinean, Brazilian, Chilean, and Mexican stock exchange during the period 2006–2009	Ordinary least square regression; cross-sectional version of the modified Jones, fixed effects and random effects based on GLS in use.	Internal, insider, concentration ownership yield negative relationship with and earnings management. Independence board similarly reduces the accruals management Significantly positive relationship between board size and earnings management.
2. Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia	Sirega, S., V., Utama, S. (2008)	Investigate companies listed on the Jakarta Stock Exchange (JSE) conduct efficient or opportunistic earnings management and to examine the effect of ownership structure, firm size, and corporate-governance practices on it	144 listed firm-observations in JSE excluding firms in financial, real estate, and telecommunication industries from 1995–1996, and 1999–2002	Empirical analysis, evaluation earnings-management-measurement models, OLS regression. firm size, ownership structure, and governance practices are included as control variables	JSE listed firms tends toward efficient earnings management. Family ownership and non-business groups have a significant influence on the type of earnings management. Inconsistent evidence with regard to the impact of institutional ownership, firm size, and corporate governance practices
3. Audit committee, board of director's characteristics and earnings management	Klein, April (2002)	examines whether audit committee and board characteristics are related to earnings management by the firm	692 listed firms from SEC filed proxy statement during 1992-1993.	Cross-section of the Modified Jones Model analysis maximum likelihood regression	Non-linear negative relation is found between audit committee independence and earnings manipulation, Negative association between abnormal accruals and BOD independence. firm size and debt as control variables
4. The Effect of the Board Composition and its Monitoring Committees on Earnings Management: evidence from Spain	Garcı´a Osma and Noguer Gill de Albornoz (2007)	test whether corporate governance mechanisms promoted by best practice codes are effective in constraining earnings manipulation	155 firm-year observations from 1999 to 2001	Cross-sectional model of EM. Ordinary Least Squares Regression for statistical analysis.	Board composition significantly determines earnings manipulation practices. EM is not constrained by independent directors but by institutional directors. No correlation is found between the existence of an independent audit committee and EMs.
5. Earnings management and corporate governance : the role of the board and the audit committee	Xie, Biao, Davidson, Wallace N, DaDalt, Peter J (2003)	Investigate whether board characteristic, audit committee and executive committee affect earnings management.	281 listed firms from S&P 500 index in 1992, 1994 and 1996.	OLS regression; cross-sectional of the Modified-Jones Model.	Audit committee and independent boards with corporate experience decrease the likelihood of earnings management. Meeting times are related to the reducing level of earnings management.

6. Internal governance structures and earnings management	Davidson, Goodwin, Kent (2005)	investigates the role of a firm's internal governance structure in constraining earnings management	434 listed Australian firms, for the financial year ending in 2000	use the cross-sectional version of the modified-Jones model OLS regression	Non-executive directors on the board and on the audit committee are found to be significantly associated with a lower likelihood of earnings management. The voluntary establishment of an internal audit function and the choice of auditor are not significantly related to a reduction in discretionary accruals.
7. Board composition and earnings management in Canada	Park, Yun. W. Shin, Hyun-Han. (2004)	Investigate the relationship between board composition and earnings management based on Canadian companies.	539 listed firm-observations of Canada from Global Vantage Database during 1991 to 1997.	Econometric model and OLS regression.	Managers are more likely to manipulate income-increasing earnings. No relationship between independent directors and earnings management.
8. Earnings Management and Corporate Governance in Asia's Emerging Markets	Shen, Chung-Hua. Chih, Hsiang-Lin. (2007)	Study the effects of corporate governance on earnings management.	495 companies in 25 emerging countries during April 2001-February 2002.	OLS regression.	Companies with good corporate governance have lower activities of earnings management. Large firms are more likely to manipulate earnings.
9. Corporate governance, earnings management, and IFRS: Empirical evidence from Chinese domestically listed companies	Ying Wang, Michael Campbell (2012)	Investigates the effect of state ownership, IFRS, and independent boards of directors on earnings management	a sample of a total of 1329 publicly listed companies, and 11,947 company years	Use the method defined by Leuz et al.'s (2003) to quantify earnings management. OLS regression.	Stateownership discourages earnings management, IFRS implementation does not seem to deter earnings management. When state-ownership is not the case, increasing the number of independent BOD seems to be a good practice to discourage earnings management
10. State ownership and earnings management: empirical evidence from Vietnamese listed firms.	Trang C. Hoang, Indra Abeysekera, and Shiguang Ma (2014)	Examine the effect of state ownership on earnings management of Vietnamese listed firms	Include 150 firms from the Ho Chi Minh stock exchange (HOSE)'s website and the Hanoi stock exchange (HNX)'s website for the fiscal years 2005 to 2011	Ordinary least squares (OLS) estimator	State-owned enterprises (SOEs) are less likely to manage accrual earnings than privately owned enterprises (POEs).
11. Effects of Audit Quality on Earnings Management and Cost of Equity Capital: Evidence from China	Chen, Lobo, Wang (2011)	Examines how differences in audit quality affect earnings management and cost of equity capital for two classes of firms in China: SOEs and NSOEs	Datasets includes 3,310 firm-year observations in China over the years 2001 to 2004	Ordinary least squares; Two-stage least squares	Higher audit quality will lead to greater reduction in earnings management and cost of equity capital for NSOEs than for SOEs

12. Audit committee financial expertise and earnings management: The role of status	Badolato, P., G., Donelson, D., C., Ege, M. (2014).	Investigate how the interaction between audit committee financial expertise and status correspond to earnings management.	Using a sample including 29,073 firm-year observations from 2001 to 2008	Employ logistic regression and, as measure earnings management by accounting irregularities and abnormal accruals.	They find board size basically has no effect on accounting irregularities and abnormal accruals. audit committees with both financial expertise and high relative status are associated with lower levels of earnings management
13. Can corporate governance deter management from manipulating earnings	Lo, Wong, Firth, (2010).	Analyze the relationship between corporate governance and manipulating earnings	A sample of 266 firms from firms listed on the Shanghai Stock Exchange in 2004	Manipulated transfer prices as earnings management measurement. Ordinary Least Square Regression for statistical analysis.	Independent directors or a lower percentage of "parent" directors, or have different people occupying the chair and CEO positions, or have financial experts on audit committees, are less likely to engage in transfer pricing manipulations
14. Do state enterprises manage earnings more than privately owned firms? the case of china	Liu Wang and Kenneth Yung (2011)	Examine how state ownership influences earnings management	Based on a panel sample of 557 Chinese publicly listed firms over a nine-year period from 1998 to 2006	Two-way random effects model and generalized least squares (GLS) estimation are employed for testing	The positive/negative association between state ownership and earnings management will depend on low/high degree of stateownership
15. CEO tenure and earnings management	Ali, A., Zhang, W. (2015).	Examine changes in CEOs' incentive to manage their firms' reported earnings during their tenure	Models contains 20,206 firm-year observations, representing 4,625 CEOs and 2,704 firms	a cross-sectional model of accruals proposed by McNichols (2002) (CFO)	New CEOs try to favorably influence the market's perception of their ability in their early years of service. Earnings overstatement is greater in the CEOs' final year, but this result obtains only after controlling for earnings overstatement in their early years of service
16. Corporate governance consequences of accounting scandals: evidence from top management, CFO and auditor turnover	Agrawal and Cooper (2016)	Examines the consequences of accounting scandals to top management, top financial officers, and outside auditors	A sample of 518 U.S. public companies that announced earnings-decreasing restatements during the 1997-2002 period	Logistic regressions Performance adjusted discretionary accruals are used for EM variable	Greater turnover of CEOs, top management and CFOs of restating firms compared to the control sample. It also provides evidence of effective functioning of internal governance mechanisms following accounting scandals.
17. Large shareholders and the pressure to manage earnings	Guthrie and Sokolowsky (2010)	Identify the relationship between outsider blockholdings and opportunistic accounting choices	Data of 1479 non-financial firms with fiscal years ranging from 1996 to 2002.	difference-in-difference approach	Firms inflate earnings around seasoned equity offerings in the presence of large outsider blockholdings, but not in their absence.
18. Innate and discretionary accruals quality and corporate governance	Kent, P., Routledge, J., and Stewart, J. (2010)	Examine the association between corporate governance mechanisms and accruals quality	The sample consists of 392 listed Australian companies for the years 2000–2006	ordinary least squares regression models. Accruals quality as a proxy for EM	Higher quality is associated with an independent board of directors, a larger, more independent and more active audit committee, and use of a Big 4 audit firm