MASTER THESIS

The moderating impact of corporate governance reform on the relationship between board independence and earnings management

Evidence from Vietnamese listed firms

Tran Thanh Truc

S2351730

Faculty: Behavioural, Management, and Social Sciences

Program: MSc in Business Administration

Track: Financial Management

Department: Finance and Accounting

Supervisors:

Prof. dr. M. R. Kabir

Dr. X. Huang

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UNIVERSITY OF TWENTE.

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ABSTRACT

For a transitional market with a short history like that of Vietnam, corporate governance is a critical area of improvement. The issuance of Circular 121 in 2012 marked an important milestone of corporate governance reform in Vietnam as it includes stricter and more well-defined regulations learned from international best practices. Among them is the requirement that independent directors should make up at least one-third of the board of directors. Although improving financial reporting is not at the heart of Circular 121, this Circular is expected to reduce earnings management through the mandatory requirement of board independence.

Using data collected from a sample of 523 non-financial listed firms from 2009 – 2016, this study finds no significant relationship between earnings management and the proportion of independent directors, and Circular 121 has no impact on this relationship. These results are consistent across different regression approaches and various robustness tests, suggesting that board independence and corporate governance reform are not effective tools in mitigating earnings management.

Keywords: earnings management, corporate governance reform, board independence, independent directors, Vietnam.

Contents

CHAPTER 1: INTRODUCTION

1.1 Background

Earnings are believed to be the premier financial information as they provide robust indications about the prospects of a firm (Lev, 1989). Companies with healthy earnings have a better valuation, attract more investors, and can raise capital at favorable terms. Therefore, delivering a good earnings performance is the most important task of executive managers. When contracting with managers, shareholders typically use earnings as a basis for awarding compensation (Peasnell et al., 2000). Managers might even be dismissed if the financial performance of the company is extremely poor (Weisbach, 1988). This means unfavorable earnings results can leave a direct negative impact on managerial wealth. Consequently, managers may have incentives to opportunistically manage reported earnings (Dechow et al., 2010).

However, as earnings management distort the true performance of firms, investors are unable to make informed decisions and the efficiency of the stock market is seriously impacted. The collapse of Enron, a public firm that manages earnings to a fraudulent extreme, caused a major disruption in the U.S. stock market in 2002. From USD 90 a share, Enron stock was traded at 50 cents one year after the scandal. This event has taken a massive USD 67 billion of shareholder wealth out of the economy. Projects in the energy industry were put on hold while electricity and natural gas companies were facing higher capital costs due to investors' skepticism.

The problem of earnings management in Vietnam was not any better. During the short history of the Vietnamese stock market, investors witnesses a series of accounting scandals including the notorious case of Truong Thanh Furniture Corporation[1]. By the end of 2008, 194 out of 357 listed firms in Vietnam had differences in net income before and after auditing, and for 47 firms, the difference was over 50%.[2] From 2009 to 2017, although the magnitude of difference between audited and unaudited net income reduced, the number of firms that have disparity increased. 540 out of 709 listed companies had unaudited net profit in 2017 different from audited numbers.[3]

These statistics alarmed the Vietnamese government and investors about loopholes in the Vietnamese corporate governance that is still in the early stage of development (Connelly et al., 2017). The Vietnamese stock market is relatively young and nebulous compared to the history of the global stock market. After the Vietnam War ended in 1975, it took more than 25 years to reunite and rebuild the whole country. Only in 2000 did Vietnam establish the first stock exchange i.e. the Ho Chi Minh City Stock Exchange

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[1] In the second quarter of 2016, Truong Thanh Furniture Corporation published financial statements with a loss of VND 1,123 billion (approximately USD 50.1 million) while the previous quarter saw a profit of VND 54 billion. As explained by Ernst & Young Vietnam, the loss was caused by VND 980 billion missing inventory which made cost of goods sold in the first half of 2016 soared to 1.690 billion, two times the revenue. The fact that Truong Thanh had not made any provision for inventories and bad receivables means the income could have been inflated for years.

[2] Trung Truc (2011) https://enternews.vn/van-nan-lai-gia-lo-that-59204.html

[3] Han Dong (2018). https://vietstock.vn/2018/04/lech-pha-lai-lo-sau-kiem-toan-co-phai-la-ve-sao-cho-dep-737-597304.htm

(HOSE). Five years later, in 2005, the second one, Hanoi Stock Exchange (HNX), came into operations. The two stock exchanges are supposed to facilitate the "equitization"[4] of numerous State-owned enterprises which are the results of a centrally-planned economy during wartime. However, the market economy of Vietnam, a communist state, still follows a socialist orientation, meaning that the government continues to hold substantial ownership in large firms even after equitization. During this period, no specific corporate governance regulations were established and listed firms in Vietnam were mainly regulated by The Enterprise Law. It was not until 2007 that the first Corporate Governance Code for Vietnamese listed firms was put into place following Decision 12/2007/QĐ-BTC. However, the effectiveness of this code remained questionable as Vietnam entered a dynamic yet turbulent stage of economic development which was characterized by the participation in WTO in 2007 and the financial crisis from 2008 to 2009.

The social, political, and cultural context in Vietnam continues to poses numerous corporate governance challenges to different players in the market, including the regulators, the firms, and the investors. This situation is deemed even more serious after the collapse of Vinashin, "the worst-ever financial scandal in Vietnam", in 2010. [5] It was no surprise that the Corporate Governance Scorecard published by the International Financial Corporation (IFC) revealed a steady downward trend in corporate governance performance among Vietnamese listed firms from 2009 to 2011. [6] Responding to the situation, the 2007 Corporate Governance Code was replaced by Circular 121/2012/TT-BTC (hereafter, Circular 121) dated July 26th, 2012. The most notable change was the requirement of board independence: at least one-third of the members of the Board of Directors in all listed companies must be independent. This is also the first legal document in Vietnam that clearly distinguished and defined the concepts of "non-executive directors" and "independent directors". Accordingly, independent directors, besides being non-executive, must not have a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm.

1.2 Research question and objective

Since the establishment of Circular 121, no study has attempted to examine its effectiveness in increasing board independence and reducing earnings management among Vietnamese listed firms. However, there are reasons to reckon that a more independent board helps to mitigate earnings management. The benefits of earnings management are accrued primarily to executive directors in the form of increased compensation and reduced likelihood of dismissal (Weisbach, 1988). In contrast, independent directors

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[4] Equitization means partial privatization where the State remains the controlling shareholder after the privatization. In fact, this term is coined by Vietnamese politicians and its use outside Vietnam is not popular.

[5] Vinashin or The Vietnam Shipbuilding Industry Group is a State-owned Enterprise established in 1996. In 2010, Vinashin defaulted on its first payment on a $600 million loan to creditors. And in 2012, the company ran up debts of up to $4.5 billion. The reasons for such failure is attributed to rapid expansion, financial crisis, weak corporate governance, and weak expertise of the Board of Directors.

[6] Data is collected from Vietnam's 100 largest publicly listed companies, representing more than 80% of the combined market capitalization on the Hanoi (HNX) and Ho Chi Minh (HOSE) stock exchanges. Corporate governance of each firm was assessed against five areas recognized by the OECD as keys to good corporate governance.

face potentially significant costs from earnings management such as the loss of reputation (Fama & Jensen, 1983). The absence of significant benefits and the risks of associated costs from earnings management provides independent directors with sufficient incentives to monitor the financial reporting process. Therefore, introducing more independent members to the board may help to reduce earnings manipulation. This study aims at verifying this proposition with the following research question:

Does a corporate governance reform following the issuance of Circular 121 moderate the relationship, if any, between board independence and earnings management among Vietnamese listed firms?

Based on a sample of 523 non-financial listed firms from 2009 – 2016, this study finds that there is no significant relationship between board independence and earnings management, and Circular 121 has no impact on this relationship. These results are consistent across different measurements of earnings management and other robustness tests. This suggests that independent directors in Vietnamese listed firms do not discharge their monitoring role effectively to reduce earnings management. Circular 121, by requiring higher board independence, does not help to improve the situation.

1.3 Contributions

My study contributes in three ways. First, there is a lack of empirical studies in corporate governance and finance and accounting in Vietnam (Vu et al., 2018). Due to the unique characteristics of a transitional economy with a special orientation, Vietnam is often not included in many cross-countries corporate governance studies around the world (Tran & Holloway, 2014). [7] Consequently, despite having strong growth and many achievements, the Vietnamese market is still relatively under-researched. There is a need for more studies of present-day accounting, particularly the reporting practices and corporate governance of listed firms, in newly established stock markets such as Vietnam. Therefore, my study contributes to the existing literature of corporate governance and earnings management of Vietnam.

Second, to my best knowledge, no prior study has attempted to examine the moderating effect of a corporate governance reform on the relationship between earnings management and board independence in Vietnam. For example, Essa et al. (2016) and Le et al. (2016) study earnings management and board independence among Vietnamese listed firms and find no significant correlation. However, these studies do not examine the impact of Circular 121 in their study period. By taking Circular 121 as a prominent example of corporate governance reform in the Vietnamese market, my study would be the first to fill this gap. The results of my study potentially provide regulators, policymakers, and investors with practical insights. Accordingly, regulators may design appropriate corporate governance policies or frameworks to effectively control earnings management, and investors may develop an understanding of an ongoing issue in Vietnam.

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[7] The authors mention that the book "Corporate Governance and Accountability" (Solomon, 2007) provides an analysis of corporate governance in 36 countries around the world, including developing countries in Southeast Asia such as Thailand and Indonesia but not Vietnam. Similarly, highly cited papers on corporate governance around the world including those of Shleifer & Vishny (1997) and La Porta et al. (1999) did not include Vietnam.

Third, my study adopts a stricter measure for board independence. When measuring the level of board independence, earnings management studies in Vietnam and other countries typically use the percentage of non-executive directors (i.e. Dechow et al., 1996; Essa et al., 2016; Le et al., 2016; Peasnell et al., 2000) and these studies do not examine the degree to which non-executive directors are independent of the organization. Non-executive directors may still have a material relationship with the company in several ways. For example, they may be large shareholders of the firm or they may be executive managers of the firm's related entities. Therefore, these directors still have the power to participate in and manipulate the earnings reporting process of the firm. My study uses the proportion of independent directors to measure board independence. An independent director in my study is not an executive manager of the firm or related entities (i.e. subsidiaries, parent company, sister companies), not a large shareholder or a representative of a large shareholder, and not an employee of the firm's business partners, legal advisors, or external auditors. This definition reflects a higher level of independence compared to non-executive managers.

1.4 Outline

The remainder of this study is organized as follows. In Chapter 2, I present the key concepts, theoretical framework, and empirical evidence based on which I formulate the hypotheses. A sub-section dedicated to explaining the Vietnamese institutional context is also included. In Chapter 3, the research methodology, regression models, and data collection are explained. In Chapter 4, the findings are displayed and discussed. Finally, Chapter 5 concludes the paper by summarizing the findings and point out several limitations.

CHAPTER 2: LITERATURE REVIEW

This chapter reviews the existing literature most relevant to my study. First, a brief introduction to corporate governance is provided. Second, the chapter elaborates on four important theories based on which the hypotheses are formulated. Third, empirical findings on earnings management, board independence, and corporate governance reform are summarized. Fourth, a specific section covering the institutional context and empirical evidence of the Vietnamese market is included. Finally, the hypotheses are presented and explained.

2.1 A brief introduction of corporate governance

The concept of corporate governance dated back to at least the 1600s when the East India Company introduces the Court of Directors which separated ownership and control (Wright et al., 2013). Then in the 16th and 17th centuries, the formation of major chartered companies, including the Hudson's Bay Company and the Levant Company, created the conflict between investors and managers. However, amidst the widespread prosperity of American corporations in the subsequent decades and especially during the World War II, the term was not in official use until 1976 when the U.S. Securities and Exchange Commission (SEC) brought it to the Federal Register for the first time: SEC began to treat issues of managerial accountability as a part of its reform agenda.

Since then, corporate governance quickly gained international momentum, as punctuated by a series of corporate failures and systematic crises. [8] In 1991, Britain followed the step of the U.S. and established the Committee on the Financial Aspects of Corporate Governance. Immediately after its establishment, the Committee launched several prominent corporate governance reports including the Cadbury Report (1992), the Greenbury Report (1994), and the Hampel Report (1995) in response to a decline in accountability of top executives that led to the collapses of major British public companies. Although not having the force of law, the Cadbury Report (1992) was adopted as part of the listing requirement by the London Stock Exchange and it also achieved notoriety internationally as a model for corporate governance codes. For example, this practice was followed by South Africa with the King Report (1994), by France with the Vienot Report (1995) and by the Netherlands with the Peters Report (1996).

To date, more than 500 codes of best practices and set of principles have been written in 109 countries and regions. [9] These codes, however, follow domestic regulations and are dispersed in nature (IFC, 2010). As globalization call for a single manual, a handful of international benchmarks have been developed to provide uniform guidance on good governance. Among these, only the principles of the Organization for Economic Cooperation and Development (OECD) (published in 1999 and revised in 2004) address concerns of both policymakers and businesses while focusing on the entire governance framework

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[8] Such events include crisis of the 1970s in the U.K., the U.S. savings and loan debacle of the 1980s, the 1998 financial crisis in Russia, the 1997-1998 financial crisis in Asia, the Enron scandal in 2002, the Parmalat scandal in 2004, and the 2008-2009 global financial crisis, among others (International Finance Corporation, 2010)

[9] A complete up-to-date list can be found at the website of European Corporate Governance Institute: ecgi.global/content/codes

(shareholder rights, stakeholders, disclosure and board practices). The OECD Principles have gained worldwide acceptance as a reference for a good corporate governance framework. Many national corporate governance codes have been developed based on these principles (IFC, 2010). Vietnam's corporate governance regulations were also developed based on the OECD Principles and contain certain rules that conform to international best practices.

As corporate governance evolves over time and across countries, there is no one-fits-all definition for this concept. According to Claessens & Yurtoglu (2013), when studying firms within one country, it makes the most sense to define corporate governance within a behavioral framework: corporate governance is the actual behavior of a firm, as revealed by its performance, efficiency, growth, financial structure, and treatment of shareholders and other stakeholders. Nonetheless, corporate governance must not be confused with corporate management in this regard. Corporate governance focuses on the structure and processes to ensure a fair, responsible, transparent, and accountable corporate behavior while corporate management focuses on the tools required to operate the business. Corporate governance has a higher level of direction that ensures that the company is managed in the best interests of its owners.

On the other hand, when comparing firms in different countries, a framework concerning the rules under which firms operate should be taken into account. These rules, coming from the legal system, judicial system, financial market, and labor market, tend to vary across countries (Claessens & Yurtoglu, 2013). Within a comparative view, the question arises on how broadly to define corporate governance. Under a narrower view, most definitions center around the relationship between managers and shareholders i.e. the firm owners. *"Corporate governance deals with how suppliers of finance to corporations assure themselves of getting a return on their investment"* (Shleifer & Vishny, 1997; p. 737). Following this definition, the focus of corporate governance would be on how outside investors protect themselves against the expropriation of insiders.

A broader view of corporate governance, on the other hand, concentrates on the relationship between the company and all of its stakeholders. Zingales (1998) regards corporate governance as *"the complex set of constraints that shape the ex-post bargaining over the quasi-rents generated by the firm"* (p.499). Under this definition, corporate governance takes into account not only the owners but also other stakeholders (i.e. suppliers, consumers, regulatory bodies, state agencies, and the local community) and it also encompasses the issue of corporate social responsibilities and other non-commercial aspects like culture and environment. However, good corporate social responsibilities do not necessarily translate into good corporate governance. Although investing in socially responsible activities boost a firm's reputation and public goodwill, it does not mean that the firm is well-governed. Eventually, Enron collapsed while positioning itself as "the world's leading renewable energy company" (Bradley, 2009).

Although different in their scope, these definitions share the key focus of shareholder and creditor rights protection. This focus provides a framework to guide a company's objectives, management, internal controls, and performance measurement. Good corporate governance helps firms build trust with investors and the community. As a result, corporate governance promotes financial viability by creating sustainable investment opportunities for market participants.

2.2 Important theories in corporate governance

No matter how broad or narrow corporate governance is defined, corporate governance is embraced by major theoretical frameworks. The most common ones are the agency theory, stewardship theory, stakeholder theory, and resource dependence theory.

2.2.1 Agency theory

Modern corporations are characterized by the separation of ownership and control, meaning the owners of the firm (the principal) delegate the decision-making authority to other persons (the agent) (Jensen & Meckling, 1976). Such separation gives rise to the "principal-agent problem" as the agents who make important decisions are not the main "residual claimants" and therefore do not bear a major share of the wealth effects following their decisions (Fama & Jensen, 1983). This suggests that there are circumstances where the agent will not act in the interests of the principal. A typical example is when he or she appropriates the firm's resources for personal consumption. Another example is the lack of motivation to devote significant effort and go through all the troubles to search for new profitable opportunities which would boost the firm value (Jensen & Meckling, 1976). Altogether, these deviations from the owners' interest are the "agency costs". As in the two examples above, an agency cost can be a direct cost that incurs from structuring and monitoring the contractual principal-agent relationships; or it can also be an indirect cost when the firm value is substantially lower than if the owners exercise direct control.

To ensure alignment in the interests of managers and shareholders, many companies appoint a board of directors to act as the firm's monitoring mechanism. They are responsible to recruit, monitor, and compensate managers (monitoring role); and to advise, approve, and participate in important decisions made by managers (advisory role) (Fama & Jensen, 1983). Shareholders may also join forces to monitor managers. However, shareholders differ in their incentives to spend resources on monitoring managers. Powerful shareholders who own a large stake in the firm have strong power and higher incentives to actively engage in and voice in the firm management. In contrast, shareholders owning a minimal portion of shares have very little motivation and power to do so and may simply free-ride on larger shareholders. Additionally, due to the difference in their ownership, the interests of major shareholders may not always align with those of minority shareholders (Shleifer & Vishny, 1997). Larger owners who have more control of the firm may deprive smaller owners of the right to appropriate returns on their investment. Consequently, corporations characterized by concentrated ownership are also exposed to the "principal-principal problem". Thus, ensuring fairness among different shareholders has been an important function of the board of directors and a key pillar in corporate governance.

2.2.2 Stewardship theory

Although the agency theory has dominated literature in corporate governance, it has been challenged by the stewardship theory (Donaldson & Davis, 1991). Originated from sociology and psychology, the stewardship theory offers an alternative perspective of managerial motivation. The key difference between the two theories is how they interpret the "model of man". Agency theory assumes a self-interested and opportunistic behavior of the manager. In contrast, stewardship theory posits that the

manager is motivated by a variety of non-economic incentives to be a good role model: he or she strives to be a steward of the shareholders. The justifications for this behavior can be attributed to the need for reputation and achievement, the intrinsic satisfaction of successful performance, and the respect for authority and work ethics (Muth & Donaldson, 1998).

Agency theory postulates a clear separation of interests between managers and owners. However, in many cases, they may sit on the same side of the table and have overlapping interests. For example, to the degree that an executive feels his or her future welfare (e.g. employment security, income, pension rights) is bound by the current employment with the company, then the executive may perceive that maximizing the firm value is also maximizing his or her interests (Donaldson & Davis, 1991).

Taking into account the stewardship theory which places trust at the center of the relationship between managers and shareholders, the shareholders should, therefore, create an effective governance mechanism to empower managers and give them more autonomy in delivering corporate goals. This can be done through a flexible governance structure, open information disclosure, and especially regular recognition and rewards. Placing excessive monitoring on the managers might only hamper firms in achieving a maximized value. Thus, the stewardship theory does not focus on the opportunistic motivation of the managers, but rather on facilitating an empowering organizational structure.

2.2.3 Stakeholder theory

In alignment with the broader definition of corporate governance, the stakeholder theory postulates that managers should make decisions that benefit not only the residual claimants but also all other the stakeholders in a firm. The principals served by the agents now include all parties who may impact or be impacted by the firm's welfare. They can be shareholders, creditors, employees, customers, communities, government officials, and to a broader extent, the environment.

Although the stakeholder theory is gaining popularity among academic researchers and receiving formal endorsements from professional and governmental organizations, it is susceptible to criticism. Jensen (2001) pointed out that the theory fails to provide a single-minded view of corporate objectives that distinguish economic corporations from other types of business. If value maximization is not at the heart of its purpose, how a publicly-held company differs from a social enterprise? The stakeholder theory neither provides a framework for managers to solve the conflict of interests among different types of shareholders. That being said, this theory probably causes "managerial confusion, conflict, inefficiency, and perhaps even competitive failure" by directing managers to serve many masters (Jensen, 2001, p.9). However, this does not mean that the stakeholder theory and the value maximization objective of corporations are mutually exclusive. Although a set of diffused corporate goals will not do any good, a failure to incorporate the welfare of other stakeholders might destroy firm value. Indeed, the two seemingly contrasting perspectives can be harmonized if they are put in a proper framework. Jensen (2001) coined a concept that he called "enlightened stakeholder theory". This new version, while focusing on meeting the different demands of stakeholders, accepts value maximization as a single long-term objective for making tradeoffs when conflicts arise among corporate stakeholders.

2.2.4 Resource dependence theory

The resource dependence theory posits that the firm performance is determined by its unique resources which are the cornerstones of its competitive advantages and which cannot be attributed to industry conditions (Peteraf, 1993). According to Barney (1991), this theory is built on two assumptions. First, companies within an industry are assumed to be heterogeneous in terms of the resources they own and the strategies they pursue. Second, these resources and strategies may not be perfectly imitable and thus the heterogeneity can be maintained over the long run. Examples of such resources include human capital resources (e.g. training, experience, capabilities, relationships, insights of managers and workers) and organizational capital resources (e.g. reporting, planning and controlling structure, and relations with other firms) (Barney, 1991).

Under the resource dependence theory, a firm must constantly search, acquire, and upgrade its resources to remain competitive (Wernerfelt, 1984). The board of directors plays a critical role in facilitating the acquisition and development of competitive resources (James & Joseph, 2015). Through their superior expertise, experience, and network, directors can help the firm to create connections with external parties and gain further access to resources. In essence, the board is expected to actively engage in generating resources to secure firm performance and overcome market rivalry and volatility (Hillman, et al., 2000). This can be done by increasing board diversity. For example, independent directors or female directors possess different sets of resources that can contribute to good corporate governance. Considerable resource heterogeneity also exists among various shareholder categories. According to Douma et al., (2006), different types of shareholders, being either foreign or domestic, and financial or strategic, have different resources that can be incorporated into firms' competitive advantages which generate good performance and corporate governance.

2.3 Earnings management

Good corporate governance increases investors' confidence which allows firms to attract capital at lower costs. It also reduces market vulnerability and helps to develop the financial market. In contrast, weak corporate governance discourages investors and gives rise to many problems, one of which is earnings management. A survey conducted by Dichev et al. (2013) reports that about 20% of firms manage earnings to misrepresent economic performance, and for such firms, 10% of earnings per share is typically managed.

2.3.1 Definition of earnings management

Simply speaking, earnings management is *"the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about the desired level of reported earnings"* (Davidson, Stickney, & Weil, 1987). Perhaps regulatory bodies have a more negative view on earnings management, defining it as *''the practice of distorting the true financial performance of the company''* (United States

Securities and Exchange Commission). [10] Earnings management is not necessarily illegal as long as managers use their discretion within the limits of accounting standards. However, it is often the antecedent of financial crimes if committed to a fraudulent extreme, as in the examples of Enron.

Earnings management has a lot in common with earnings quality. According to Dechow et al. (2010) *"higher quality earnings provide more information about the features of a firm's financial performance"* (p.344). Therefore, highly managed earnings have low quality. However, the absence of earnings management does not guarantee a high earnings quality, because other factors contribute to earnings quality (Lo, 2008). For example, calculation errors and the use of poor accounting standards leads to lower earnings quality. Nevertheless, taking these contributing factors as constant, there is a very close connection between earnings management and earnings quality and many studies use earnings management as an inverse proxy for earnings quality (Dechow et al., 2010).

The two main tools of earnings management are accounting accrual and real activity. The accrual method concerns the abuse of accounting items that are not directly related to immediate cash flows such as provisions and depreciation and amortization. Although accrual manipulation is relatively simple to carry out, it is easy to be detected via monitoring mechanisms, such as external auditors (Zang, 2011). Audit restatements are signals of accrual earnings management and stock prices tend to decrease following an announcement of restatements (Dechow et al., 2010).

In contrast, real activity method refers to the manipulation of reported financial performance through actual business transactions that reflect suboptimal economic decisions (Campa, 2019). Some examples include the sales of goods under special discounts, overproduction, cutting or delaying expenses, sales of assets, changes in R&D expenditure (Roychowdhury, 2006). As real activity earnings management is not a divergence from accounting standards, it is more difficult to be detected. Nevertheless, carrying out transactions that are economically suboptimal leaves negative impacts on the firm's future profitability. Eventually, it reduces shareholder value (Campa, 2019).

Extant literature suggests that firms engage in earnings management by real activity or accounting accruals or both. However, as real earnings management is costly, firms use accrual earnings management to a much higher extent (Lobo & Zhou, 2009). As real earnings management is harder to detect, my study focuses on investigating accrual earnings management.

2.3.2 Motivations of earnings management

Earnings, the "bottom line," are widely believed to be the premier information provided in financial statements and they lie at the heart of many valuation models. Investors are motivated to invest in companies with healthy earnings. As a result, managers find good incentives to manage earnings figures. According to Kellogg (1991), influencing investors' perception of firm value is the primary motivation for earnings manipulation. This is because firms can raise additional financing on more favorable terms and existing shareholders may sell their stocks at higher prices. Consistent with this view, Dechow et al. (1996)

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[10] SEC Docket, Volume 70, No. 16, Part 2, p.1775

find that an important motivation for earnings manipulation is the desire to attract external financing at lower costs. This problem is especially pronounced when earnings fall below certain thresholds such as a loss, growth or profitability targets, and analysts' consensus forecasts (Peasnell et al., 2005).

Another explanation for earnings management is that when contracting with managers, shareholders commonly use earnings as a basis for awarding bonuses and stock options (Peasnell et al., 2000). Therefore, bad earnings results can leave negative consequences for senior management's wealth. According to DeFond & Park (1997), poor management performance increases the likelihood of dismissal under the assumption that good performance in the current year will not compensate for poor performance in the future. Thus, when the current year's performance is poor, executives reduce the chance of dismissal by borrowing future earnings by using income-increasing accruals, and vice versa (DeFond & Park, 1997). However, income is not always adjusted upward. Based on a survey of 169 Chief Financial Officers of public companies, Dichev et al. (2013) reported that 60% of earnings management is income-increasing, and 40% is income-decreasing. This finding is somewhat contrasting to the emphasis on income-increasing accruals in existing literature but is consistent with the "cookie-jar reserving" and "big baths" hypotheses (Dichev et al., 2013). DeFond & Park (1997) find that managers borrow earnings from the future to increase earnings of the current period when they expect future earnings to be promising while current earnings are poor. Conversely, when current earnings targets are met but expected future earnings prospects are gloomy, managers reserve current earnings for possible use in the future.

Managers also manipulate accounting accruals to smooth income due to political costs and employee costs. Benston and Krasney (1978) argue that large fluctuations in earnings may attract the attention of regulators. Sharp upward earnings fluctuations may be perceived as a signal of monopolistic practices; sharp downward fluctuations may signal crisis and cause regulators to act. Also, employees or union shall be sensitive to fluctuations in earnings. Significant increases may generate demands for wage increases; sharp decreases may impose costs due to fears of financial distress. Consequently, firms having a high propensity of government scrutiny and a strong union have incentives to smooth earnings.

Earnings management is also related to tax motivation. Studying the relationship between earnings management and tax-rate reduction following the Tax Reform Act of 1986 in the U.S., Guenther (1994) find that big companies report significantly negative current accruals to defer operating income for the years before the tax rate reduction. Similarly, Maydew (1997) find that firms with net operating loss carrybacks deferred taxable income and recognized more nonrecurring losses-actions that increased tax refunds from pre-1986 high-tax years. In contrast, firms that took large amounts of investment tax credits in the past manage income less. However, Guenther (1994) also notes that other incentives related to performance and compensation might make it costly for managers to do shift earnings in anticipation of a tax-rate reduction. For this reason, many firms may choose to forego current tax savings to avoid reducing income.

However, not all income management motivations are opportunistic. Bowen et al. (1987) suggest that accounting earnings generally provide a better indication of an enterprise's present and future

performance than cash flows which is limited to the cash receipts and payments. There is also evidence that discretionary accruals predict future profitability and dividend changes (Subramanyam, 1996). Thus, several studies argue that earnings management may be beneficial because it potentially enhances the information value of earnings. Jiraporn et al. (2008) find that in firms with lower agency costs, there is a positive relationship between earnings management and firm value. This suggests that managers may manage earnings to communicate private information to shareholders and the public. According to Subramanyam (1996), managers may smooth income to counteract the effect of temporary movements in cash flows and profitability. Managers may also use their discretion to communicate their knowledge about firm profitability which is yet to be reflected in the historical reported earnings. Consistent with this notion, Subramanyam (1996) find that discretionary accruals are priced by the stock market, suggesting that investors reward firms for disclosing private information.

2.3.3 Impacts of earnings management

Though earnings management might not be illegal and can even be beneficial in certain cases, it is often criticized due to numerous negative consequences if it is carried out with opportunism. First, unreliable earnings information distorts the stock market efficiency. Under the absence of accurate earnings reporting, investors suffer from adverse selection bias because they cannot make informed decisions (Chung et al., 2009). Investors could estimate the magnitude of firm value that has been inflated and discount the stock accordingly once restatements are published (Dechow et al., 1996). However, because the magnitude of earnings management is difficult to be estimated, there is an uncertainty among investors that widen the bid-ask spread to "compensate for the increased risk of losing to more informed traders" and protect themselves against adverse selection costs (Dechow et al., 1996, p.6). A higher firm risk as perceived by investors, in turn, increases the firm cost of equity (Dechow et al., 2010). Based on a large sample of 6386 seasoned equity issues in the U.S., Teoh et al. (1998) find that issuers who managed income upward before the offering have lower long-run abnormal stock returns and net income after the issue. The high bid-ask spreads, in turn, lower equity liquidity (Chung et al., 2009).

Second, a firm with less reliable earnings reporting tends to have a higher cost of debt. Dechow et al. (1996) report that firms experiencing a significant increase in their cost of debt following the revelation of earnings overstatements. This suggests that manipulating earnings initially enables firms to enjoy a lower cost of debt, but once the earnings manipulation is revealed, often through restatements post-audit, these firms experience significant increases in their cost of debt. Francis et al. (2005) document that firms with higher accruals have a higher interest rate and a lower credit rating. Graham et al. (2008) report that banks use tighter loan contracting terms following their clients' publishing of restatements. Bhojraj and Swaminathan (2007) find that firms with high accruals have lower one-year bond returns.

Finally, earnings management also increases litigation propensity (Palmrose and Scholz, 2004), especially when the earnings pattern is changed substantially (Lev et al., 2008). DuCharme et al., (2004) report that the incidence of lawsuits involving stock offers of U.S. firms is significantly positively related to abnormal accruals around the offer. The study finds that accruals reversals are more pronounced and stock returns are lower for sued firms than for those that are not sued.

2.4 Corporate governance mechanisms to control opportunistic earnings management

Although earnings management can enhance the information value of earnings in certain cases, it reflects managerial opportunistic behavior in most other cases, especially under weak corporate governance. Earnings management increases the information asymmetry problem which deters investors from making the optimal investment decisions. When financial reporting is not trustworthy, firms face multiple consequences, and the capital market efficiency is also impaired. Consequently, earnings management is an agency cost. Because poor oversight of management under weak governance is an important catalyst for financial frauds (Dechow et al., 1996), opportunistic earnings management can be mitigated by strengthening corporate governance mechanisms. There are various mechanisms to control earnings management, such as increasing board diversity, designing an optimal ownership structure, or strengthening regulations. However, this section will focus on the two mechanisms most relevant to my study, namely board independence (i.e. internal mechanism), and corporate governance regulations (i.e. external mechanism).

2.4.1 Board independence

Background

Designed to curtail managerial opportunism, the board of directors is a crucial internal control mechanism and has been at the heart of corporate governance research. Directors serve as a "top-level court of appeals" (Fama & Jensen, 1983, p. 314) and as "shareholders' first line of defense against incompetent management" (Weisbach, 1988, p.431). They are responsible for monitoring managers on behalf and in the best interest of all shareholders (Jensen & Meckling, 1976).

The key question when establishing a board of directors is who should be appointed. Fama & Jensen (1983) note that the board would not be able to discharge its monitoring role unless it includes several top managers. Top executive directors expedite the flow of information from lower managerial levels to the board and facilitate important discussions related to the firm's business operations. However, the dominance of powerful managers, typically the CEO, may lead to "the absence of separation of decision management and decision control" (p. 314). Accordingly, executive managers, using their power and superior insights of the firms, possibly dilute the board's ability to provide independent judgment.

These problems can be solved by balancing the number of internal executive members with outside independent members. Due to their independence from the firm, these directors can perform agency-related tasks such as appointing, compensating, and firing executive managers. In contrast, inside directors have their responsibilities highly tied to those of the CEO and hence they are generally unable or unwilling to remove incumbent CEOs. Therefore, independent directors help to reduce the principal-agent problem. Independent directors also play an important role in minimizing the principal-principal problem. As opposed to internal manager directors, they have fewer connections with large shareholders and thus, are more likely to ensure a fair treatment towards minority shareholders (Kim et al., 2007).

The stewardship theory and the stakeholder theory also support a more independent board. Independent directors often have fewer benefits from managing earnings. The benefits are expected to accrue primarily to executive directors in the form of increased compensation and reduced likelihood of dismissal (Weisbach, 1988). However, independent directors who are respected leaders in their area of expertise often face significant costs from earnings management such as the loss of reputation as effective monitors (Fama & Jensen, 1983; Weisbach, 1988). Fama & Jensen (1983) explain that outside directors have incentives to develop their reputation as experts in decision control and are more concerned about their image in the eyes of all stakeholders, not only the shareholders. Therefore, they are motivated to ensure the effective monitoring of the company because serving as stewards of well-run companies signals their competence and prestige to the job market. Consequently, outside directors are assumed to be less influenced by management and therefore, discharge a better monitoring role compared to inside directors. For example, Hermalin & Weisbach (1998) suggest that a CEO who performs poorly is more likely to be removed when the board is more independent. Similarly, Weisbach (1988) report a strong correlation between prior performance and the probability of a CEO resignation for companies with outsider-dominated boards than for companies with insider-dominated boards.

Under the resource dependence theory, outside directors, due to their different social and human capital may bring diversified expertise to the board. The more outside members present on the board, the more resources available to be embedded in the strategies to maximize firm value (James & Joseph, 2015). Peasnell et al. (2000) suggest that non-executives directors often hold senior management positions in other large firms. Due to their diverse experience, they are relatively familiar with financial reporting issues and can identify misreporting cases.

Empirical evidence

Altogether, the above discussion suggests that outside directors, due to their independence, capabilities, and personal motivations can mitigate earnings management. A magnitude of contemporary findings is in alignment with this view. Using a logit regression analysis of 75 fraud and 75 no-fraud firms, Beasley (1996) shows that no-fraud firms have a higher proportion of outside board members than fraud firms. Dechow et al. (1996) use a sample of firms targeted by the SEC for allegedly overstating earnings, find that these firms are more likely to have boards of directors dominated by executive managers. Based on a sample of 692 firm-years observations, Klein (2002) finds that earnings management as measured by abnormal accruals is negatively related to board independence. Based on a sample of Spanish firms, Saona et al. (2020) find that independent boards constrain managers' capacity to manage earnings. These findings suggest that the inclusion of outside members on the board increases the board's monitoring effectiveness for the prevention of financial statement fraud, as predicted by the agency theory.

However, there is also other mixed evidence. For example, Ye (2014) and Sarkar et al. (2008) documents a positive relationship between independent directors and the magnitude of earnings management among Chinese firms and Indian firms. Similarly, Bao & Lewellyn (2017) conduct an empirical analysis of 1200 firms in 24 emerging markets and find that proportion of outside directors positively correlate with earnings management.

There can be several explanations for the second strand of findings. The first explanation concerns the CEO's power within the firm. Hermalin & Weisbach (1998) suggest that board independence decreases throughout a CEO's tenure. When CEOs are extremely able and powerful, they can use their power to ensure a relatively weak but independent board throughout their career. Hermalin & Weisbach (1998) note that because the proxy committee to elect independent directors is appointed by existing management, strong CEO can impose his will on the director selection process. Consequently, management can select directors that are independent by regulations but still unduly influenced by management. Thus, increasing outsider representation on boards in some cases may simply be "window dressing" (Romano, 2005).

The second explanation is consistent with the argument that independent directors lack sufficient business information and knowledge to effectively discharge their monitoring role (Uribe-Bohorquez et al., 2018). Weisbach (1988) suggests that independent directors often have to rely on publicly available performance measures and tend to be short-sighted to remove managers following one bad year, ignoring the fact that these managers may maximize the firm's long-term value. In contrast, executive directors make better business judgments and decisions as they have more insider information than what is reflected in public information. From these arguments, it can be seen that the effectiveness of independent directors is conditional on the firm's information cost such as the availability, homogeneity, and accuracy of analysts' forecasts (Duchin et al., 2010). Independent directors considerably enhance firm performance when the cost of information acquisition is low, but they hurt performance when such cost is high. In this regard, outside directors can be a firm's liabilities rather than resources.

Finally, independent directors are responsible for removing bad management, but they may not have the incentives to do so. Independent directors without a significant stake in the firm have no incentive to cause trouble for management, especially under the context where individual relationships are important (Vuong et al., 2013). Besides, when outside directors serve directorships in too many companies, they might be under-committed (Sarkar et al., 2008). The most common problem shared by busy directors is the reduced ability to attend board meetings, annual shareholder meetings, and other committee meetings although these are the forums where they can formally participate and demand accountability from management.

In summary, the majority of the literature suggests that independent directors discharge a better monitoring role compared to executive directors and they are likely to suppress the opportunistic behavior of managers to manipulate earnings results. However, simply being independent is not sufficient to be an effective director. Independent directors should maintain their control over powerful managers to not be influenced by them. Internal information costs should also be lowered and rewards should be given to motivate outside directors to closely engage in the firm business so that they can provide valid judgments over important decisions of the firm.

2.4.2 Corporate governance reform

Background

The view that independent directors help to improve the effectiveness of internal control mechanisms and that there is a correlation between board independence and earnings management has led to a global trend in corporate governance reform to increase outside board representation (Weisbach, 1988). In response to a series of major financial reporting scandals, in 2002, the New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NASD) proposed a new corporate governance regulation requiring listed firms to have a majority of independent directors on the board. In essence, a director is independent if that director does not receive any significant compensatory fee from the firm other than the director fee and is not an affiliated person of the firm or any of its subsidiary. Firms that did not comply with this rule before the reform were required to increase their board independence. One of the primary objectives of this reform was to enhance the monitoring by the board, particularly the monitoring of financial reporting.

Also in 2002, U.S. Congress enacted the Sarbanes–Oxley Act (SOX) which sets numerous new or amended requirements for all public companies and accounting firms in the U.S. The 66-page Act is arguably the most important amendment in the U.S. Securities Law, aimed at bringing transparency to the stock market. The main objective of this law is to protect the interests of investors by forcing public companies to ensure greater transparency of their reports and financial information. At the same time, the law also adds provisions binding the personal responsibility of executives and chief financial officers for the reliability of financial statements. Besides, public companies are required to make changes in internal control, especially accounting control.

A decade earlier, a major governance reform also happened in the U.K. In 1992, the "Committee on the Financial Aspects of Corporate Governance" chaired by Adrian Cadbury published the Cadbury Report which included a Code of Best Practices that provide recommendations on the composition of the board of directors. While the Code does not explicitly advise a certain number of non-executive board members, the recommendation that audit committees should comprise exclusively of non-executive directors and should include at least three members means that firms should have a minimum of three non-executive directors on the board. Although not having the force of law, the Cadbury Report (1992) was adopted as part of the listing requirement by the London Stock Exchange.

Emerging markets also follow the global trend in the reform of the board of directors. In early 2001, following major earnings management scandals and other financial frauds[11], the Chinese Securities Regulatory Commission (CSRC) and the Shanghai and Shenzhen stock exchanges introduced new guidelines that prescribed the adoption of independent directors for listed companies in China. The

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[11] According to Lai (2011), "the practice of earnings management is both extensive and extreme". In 2001, the State Auditing Bureau found that more than two-thirds of 1,290 largest state-owned companies falsified their accounts, with the illegal money exceeding 100,000,000,000 Chinese Yuan. Other scandals of fraud include the prominent case of China Life insurance company, in which $652 million in financial irregularities was uncovered in December 2003.

adoption of these guidelines was voluntary. However, because only a small number of firms followed these guidelines, a new regulation called "Guidelines for Introducing Independent Directors to the Board of Directors in Listed Companies" was issued by CSRC in August 2001. This regulation mandates that all firms listed in the Shanghai and Shenzhen stock exchanges must have at least two independent directors by June 2002 and one-third of the board must be independent by June 2003.

In 2000, the Malaysian Code on Corporate Governance was issued and one important recommendation of this Code is that independent directors should make up at least one-third of the board. In 2012, this recommendation was upgraded and requires that the board had to include a majority of independent directors if the Board Chairman is not an independent director. However, in 2017, after the update by the Securities Commission Malaysia, this recommendation applies to all listed companies no matter the Board Chairman is independent or not.

In February 2002, the GreTai Securities Market in Taiwan added a set of new requirements to their listing rules, requiring companies to have at least two independent directors on the Board of Directors and one independent supervisor on the Supervisory Board to meet the listing requirement. Accompanying this, a corporate governance document, "Corporate Governance Best-Practice Principles", was issued in October 2002. The independent director system is one of the main subjects in the Principles, recommending listed companies to hire an appropriate number of independent directors. The Principles include provisions to guide independent directors and supervisors in performing their jobs and separate the compensation plans of these directors and supervisors from those of others. As neither the listing rule nor the Principles have the status of law, regulators later attempted to make the independent director system regulatory binding. In December 2005, an amendment to Taiwan's Securities and Exchange Act was approved, stating that publicly listed companies are required to appoint two or more independent directors.

Empirical evidence

Several studies show that in the period following a change in corporate governance regulations, earnings management reduces. For example, in the U.S., earnings management had increased steadily since 1987 but then declined after the passage of SOX in 2002 (Cohen et al., 2008). Lobo & Zhou (2009) found that Canadian firms listed in the U.S. and subject to SOX are more conservative in financial reporting in the post-SOX period. Interestingly, such impact is not homogeneous: it is more pronounced for firms that were aggressive in the pre-SOX period. Similarly, using a balanced sample of UK-incorporated quoted companies to examine the effectiveness of the Cadbury Report issued in 1992, Peasnell et al. (2000) found less income-increasing accrual management when the proportion of non-executive directors is high in the post-Cadbury period. Altogether, these results are consistent with the view that appropriately structured boards discharge their financial reporting duties more effectively after corporate governance reform.

However, such effectiveness is not evident under all circumstances. Following the listing requirement of NYSE and NADS, Chen et al. (2015) find that non-compliant firms (i.e. firms that did not have a majority of independent directors before the reforms) with low information acquisition costs experience a significant reduction in earnings management after the reform. However, this effect does not hold for all non-

compliant firms on average. These results indicate that the effectiveness of board monitoring relies on not only independence but also information cost. Therefore, a poor information environment can hamper independent directors' monitoring, making them ineffective in reducing earnings management.

The establishment of mandatory regulations does not always produce favorable outcomes. Studying the impact of corporate governance reform in China, Lai (2011) shows that board independence significantly reduces earnings management when the adoption of independent directors is voluntary following non-binding guidelines. However, this effect is insignificant when such adoption is made mandatory by law. Lai (2011) explains that the mandatory requirement of quantities merely brings about a "flight from quality" (p.27). The law creates high pressure on the premature market of Chinese independent directors and the market supply could not catch up with the sudden increase in demand. Although most firms manage to have sufficient independent directors as required, this does not mean that they are effective directors: there is no significant association between board independence and earnings management in the post-reform period. This suggests that board independence could be an effective mechanism to control earnings management, but a hasty and drastic reform could distort the market's demand and supply conditions which render such governance mechanism ineffective. Therefore, without the development of a complementary market for independent directors, a board reform that puts too stringent requirements on businesses could prove futile.

Chen & Zhang (2014) conducted a study on 447 Chinese listed firms from 2000 – 2006 and report that the magnitude of earnings management measured by discretionary accruals decreases considerably after the introduction of the Chinese Corporate Governance Code in 2002 which requires more independent directors on the board. However, although statistically significant for private firms, such impact is minimal when listed firms are State-controlling. Chen & Zhang (2014) explain that to obtain more cashback from listed companies, controlling shareholders have strong incentives to mislead minority shareholders about the firm's economic performance by inflating reported earnings. When the State is a large shareholder, they have even more power to influence the board and deprive the benefits of minority shareholders.

Turning to Malaysia, after the corporate governance reform, Germain et al. (2014) document a significant increase in the number of independent directors from 2002 to 2007. Independent directors made up more than one-third of the board proportion as required. In contrast, the number of non-independent directors declines gradually over the studied period. However, market-to-book ratios and stock returns are negatively related to board independence. A possible explanation for this finding is that too many independent directors could impose a harmful constraint on managers. Demsetz (1983) maintains that besides independent directors, executive compensation contracts the pressures from the capital market already provide adequate monitoring of managers.

Examining the impact of board independence reform in Taiwan, Liu & Yang (2008) report that 58.4% of newly appointed independent directors and supervisors were old faces. These independent directors were already sitting on the board and their status was changed simply by adding the word "independent" to the original title. Before the enforcement of the Listing Rules in Taiwan, there were no such titles as "independent directors" and "independent supervisor". Consequently, it is natural to change their titles.

However, it could also be that these directors and supervisors were friends and associates of the controlling shareholders who ran the companies. They happened to meet the independence requirement and therefore were conveniently reappointed to become independent directors and supervisors. If this is the case, the purpose of the Listing Rules to enable board independency is defeated.

In summary, corporate governance reform has been occurring in many countries around the world. However, empirical evidence shows that this is not a one-fit-all solution for every country. Corporate governance reform depends on the institutional context. For most countries, a successful reform requires radical changes in the legal system such as amendments in accompanying laws (i.e. securities, company, and bankruptcy law) and enforcement strengthening (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Without these additional factors, the effectiveness of corporate governance reform should not be automatically assumed.

2.4.3 Other corporate governance mechanisms

Besides board independence, other board characteristics should be taken into account to strengthen corporate governance and reduce earnings management. According to the agency theory, the principal-agent problem would be worse if the CEO also takes the leading role of the board – a situation regarded as "CEO grading his homework" (Brickley et al., 1997, p.190). Klein (2002) finds that earnings management in terms of abnormal accruals is positively related to CEO duality. In contrast, when the CEO is not the Board Chairman, other directors are more inclined to perform an independent role. Regarding the gender of directors, according to the resource dependence theory, due to their different life experiences, female directors contribute diverse perspectives to the boardroom and help to improve the quality of board decisions, especially for complex issues (Huse & Grethe Solberg, 2006). A board with gender diversity are better at monitoring managers as women directors tend to require more audit efforts and managerial accountability (Adams & Ferreira, 2009). Turning to board size, a large number of directors can bring multiple resources to the firms. However, as board size increases, it will be more difficult to coordinate, align interests, and reach consensus on important decisions (O'Reilly et al., 1989). Jensen (1993) suggests that larger boards produce less candid discussions of managerial performance and reduce the board joint power in resisting CEO dominance. Similarly, external auditors from reputed auditing firms are more likely to detect and mitigate earnings management due to their extensive qualifications and experience in the field (Rusmin, 2010). Rusmin (2010) examine listed companies in Singapore and conclude that the magnitude of earnings management is significantly lower amongst firms employing a Big 4 auditor. Regarding the above arguments, separating the role of CEO and Board Chairman, appointing female directors, maintaining a smaller board size, and hiring reputed external auditor may help to reduce earnings management.

Another mechanism is firm ownership structure. Minority shareholders have little motivation to commit to monitoring the firm and simply free ride on larger shareholders. Therefore, firms with more dispersed ownership tend to underperform firms with more concentrated ownership. However, according to the agency theory, although major shareholders contribute to effective monitoring and help firms to drive performance, they may abuse their power and gain private benefits at the costs of smaller shareholders.

The principal-principal problem might worsen when the majority of shareholders are also inside managers. Manager's entrenchment is often found in companies with high managerial ownership (Sáenz González & García-Meca, 2014). Therefore, outsiders, especially foreign investors may be helpful in monitoring firms. Foreign shareholders potentially help to transfer resources and good corporate governance practices from developed markets to emerging markets. In contrast, domestic investors are assumed to be inferior in performing a monitoring role as they often have complex business relationships with the firm and other domestic shareholders (Douma et al., 2006). Perhaps among domestic investors, the State is an important player. Heath & Norman (2004) argue that State-owned companies tend to underperform their counterparts. Managers in State-owned companies have less motivation to drive a superior performance as these companies possibly enjoy bailout from the state in case of default. Overall, extant literature suggests that higher concentrated and foreign ownership, but lower managerial and State ownership may reduce earnings management. Based on this, firms may design an appropriate ownership structure to constraint the opportunistic behavior of managers.

2.5 The Vietnamese context

2.5.1 Internal governance structure of Vietnamese listed companies

Vietnamese listed companies typically have a two-tier internal governance structure including the Board of Directors and the Supervisory Board. The Board of Directors must have at least five and at most eleven members as stipulated by law. Directors are responsible for monitoring managers and participating in important decisions of the company on behalf of all shareholders. In Vietnam, listed firms are not obliged to establish a separate sub-committee to support the Board of Directors with monitoring tasks. Very few companies in Vietnam appoint a separate Audit Committee or Compensation Committee. Instead, each member of the Board can be appointed to take charge of each issue such as compensation or internal control. Taking the role of a multi-component committee, the Board of Directors is the main mechanism to monitor managers.

On the other hand, the Board of Directors is monitored by the Supervisory Board and this two-tier internal governance structure differs from that in the U.S. and other Anglo-Saxon countries where there is no Supervisory Board. Specifically, the Supervisory Board comprises at least three members and at most five members. The Head of the Supervisory Board must be a person who has expertise in accounting and at least one member must be an accountant or auditor. All members must not work in the accounting and finance department of the company and they must not work for the company's external auditor.

These two boards have distinct authorities and their composition cannot be mixed, i.e. members of the Board of Directors cannot sit on the Supervisory Board and vice-versa. My study focuses more on the Board of Directors as it is the direct mechanism that monitors executive managers. They meet more often and involve closer in daily business operations compared to the Supervisory Board. For simplicity, the Board of Directors is mainly referred to as "the board" and the Board of Management and the Supervisory Board will be referred to by their full names throughout my study.

Figure 1: Two-tier internal governance structure of Vietnamese listed companies

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    ┌─────────────────────┐
    │    Shareholders     │
    └─────────────────────┘
              │                    ┌─────────────────────┐
              ├────────────────────│  Supervisory Board  │
              │                    └─────────────────────┘
    ┌─────────────────────┐
    │  Board of Directors │
    └─────────────────────┘
              │
    ┌─────────────────────┐
    │ Board of Management │
    └─────────────────────┘
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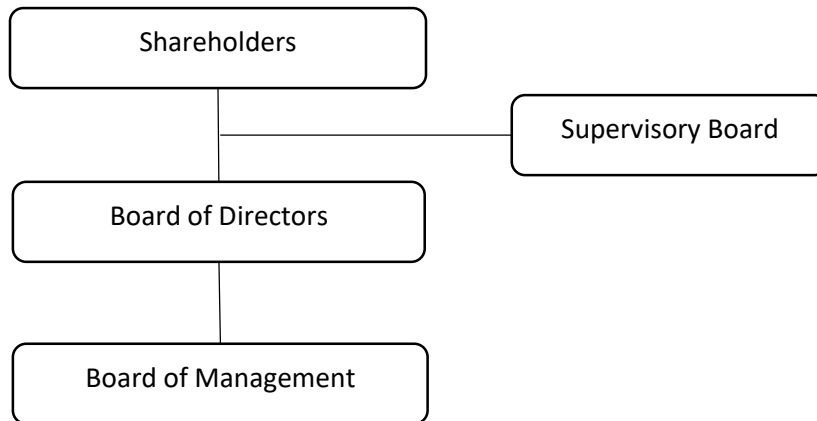
2.5.2 Transition of a post-war economy

The economic and social development of Vietnam has been remarkable, recalling that the country has only been independent for 45 years since the Vietnam war ended in 1975. Between 1986 and 2019, the total annual export turnover increased from USD 789 million to USD 264 billion (General Statistics Office Of Vietnam, 2020). This significant export growth can be attributed to Vietnam's membership in large trade organizations as well as various bilateral and multilateral Free Trade Agreements. From 1980 to 2018, poverty rates declined sharply from over 70% to below 6% (World Bank, 2019), per capita income increased from USD 100 to USD 2500 (United Nations, 2019), and the percentage of people aged 15 and older who can read and write went up from 80% to 95% (UNESCO Institute of Statistics, 2019).

Vietnam also pays close attention to globalization. The first globalization milestone of Vietnam was in 1995 when the country became a full member of the Association of Southeast Asian Nations (ASEAN). Five years later, Vietnam signed a bilateral trade agreement with the U.S., creating strong momentum for investment and export growth. In 2007, Vietnam joined the World Trade Organization (WTO) which granted Vietnamese exporters access to developed markets. Currently, Vietnam has signed 13 bilateral and multilateral Free Trade Agreements. The most recent one is the EU-Vietnam Free Trade Agreement in 2020 which paves tariff reduction on 99% of Vietnamese goods exported to 28 EU-member countries.

The orientation of this strong economic development and global integration dated back to the first large scale economic reform in 1986 when Vietnam establishes the "Renovation Policy" ("Chính sách Đổi Mới") to transform the centrally-planned economy (also known as a command economy) where privately-run businesses were almost non-existent (Nguyen et al., 2014). [12] Accordingly, the government withdrew from State-owned enterprises (SOEs) and converted them into joint-stock companies. The number of full SOEs

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[12] A centrally planned economy is an economic system in which a central authority, typically the government, makes top-down economic decisions regarding the manufacturing and the distribution of products. State-owned enterprises are in charge of producing goods and services and bureaucrats control the prices. In contrast, in a market economy, production and prices are determined bottom up by businesses and consumers (market forces).

in Vietnam reduced from more than 12,000 in 1990 to 5,655 in 2001 and further to 718 in 2016 (Government Information Portal, 2019). The establishment of two stock exchanges, HOSE and HNX, largely supported this strategy (Vu et al., 2018).

However, the ownership structure of these firms, many of which are listed, is still heavily concentrated in the hands of the State. This is the reason why this process is named equitization (or partial privatization), not full privatization. Hoang et al., (2017) report that the average State ownership in 150 Vietnamese listed firms is 27.6% and the highest State ownership is 79.1%. Enterprises in special industries such as defense, public services, transportation, oil and gas, electricity, and telecommunication will remain fully owned by the State. Instead of having government bureaucrats directly supervising SOEs as before, the State now exercises its rights as a large shareholder by appointing representative directors to the board (Duong et al., 2017). The special nature of the equitization process in Vietnam seems to be contrasting to common practices around the world where the State typically retreat to only their regulatory roles after privatization. This reality in Vietnam, a one-party state, reflects the socio-political objective that the Vietnamese government has been pursuing: constructing a market economy without deviating from a socialist orientation in the long-term (Nguyen et al., 2014).

The special orientation of the economy has several impacts on the stock market. Listing on the Vietnamese stock exchanges was meager and often associated with conservatism (Nguyen et al., 2014). Equitized SOEs have been the main suppliers of stock, but subjecting these firms to market practices is difficult when the State is still their major shareholder. At the same time, the continuous development of the private sector requires strong capital support from the stock market. A stock market may achieve its expected roles when there is fair competition between companies according to market forces which improve operational efficiency (Draho, 2004 as cited by Nguyen et al., 2014). However, the underdevelopment and short history of Vietnamese private companies suggest that they have limited capability in competing against SOEs. In fact, despite open listing for all companies, the capital of small private enterprises were mainly from the founders or their families (Vu et al., 2018). Therefore, building a stock market that can ensure efficiency and sustainability remains an ongoing challenge for Vietnamese policymakers.

2.5.3 Corporate governance reform in Vietnam

The rapid economic development and global integration, the State dominance, and the semi-efficient stock market call for a strong corporate governance framework to ensure transparency, supervision, and proper management in the market (Vu et al., 2018). However, whether corporate governance development has been in alignment with market development is still a question of practice.

From 2000 to 2005, there was no specific law addressing listed firms on HOSE and HNX and these firms were mainly governed by the Enterprise Law issued in 1999 (revised in 2005). Although listed companies have many unique characteristics, the Enterprise Law does not differentiate them from other types of companies. It was not until June 2006 that the National Assembly issued the first Law on Securities. However, this law mainly guided the trading of stocks on the two exchanges and corporate governance was not one of its focuses.

It should be noted that the Vietnamese stock exchanges are responsible for issuing listing and delisting rules. However, regulations on corporate governance shall be issued by higher authorities such as the Ministry of Finance or the National Assembly. Besides, voluntary code was not a common practice during this early stage of market development when corporate governance is still a new concept. For an emerging market with weak legal enforcement like that of Vietnam, voluntary efforts often fail to bring about improvements (Tran & Holloway, 2014). Therefore, governmental bodies were the main force that set up a corporate governance framework via mandatory law.

In March 2007 the first Corporate Governance Code for Vietnamese listed firms was issued by the Ministry of Finance with Decision 12/2007/QD-BTC. This was the first document that thoroughly covered important aspects of corporate governance of listed companies such as shareholder protection, conflict of interests, information disclosure, the Board of Directors, and the Supervisory Board. However, the force of law of this regulation is semi-mandatory, meaning that if firms fail to comply with the rules but manage to report their non-compliance to shareholders and the State Securities Commission, they will not be punished.

Overall, from 2006 to 2007, the government had taken initial efforts in setting up a corporate governance framework for listed firms in Vietnam through the issuance of several laws and regulations. However, they bear common criticisms such as (i) gaps in documents and enforcement; (ii) vague definitions and overlapping regulations; and (iii) late issuance (Vu et al., 2018). The Vietnamese regulatory system follows Code Law which is typically regarded as less well-defined than Common Law (Claessens & Yurtoglu, 2013). Vietnamese laws, rules, and regulations in effect were not clear enough to provide guidance and direction for public companies (Freeman & Nguyen, 2006). For example, although the majority of firms have a clear organizational structure comprising of a Board of Directors, a Supervisory Board, a Chief Executive Officer, and Functional Managers, regulations do not clearly define their responsibilities (Vu et al., 2018). Vietnamese corporate governance is still in its early stage and has "low minority protection and low rule of law" (World Bank, 2006; World Bank, 2012). Besides, the implementation and enforcement of the regulations are not effective (Freeman and Nguyen, 2006). Companies whose State ownership is high may enjoy sanction in case of failure (Vu et al., 2018). Therefore, it is uncommon to observe an incompetent director being fired or punished for bad decisions.

These limitations lead to several major scandals and bankruptcies of many listed companies such as the delisting of Bach Tuyet Cotton Company[13] in 2009, the "Vinashin scandal" in 2010, and the bankruptcy of Vien Dong Pharmacy Company[14] in 2011. The reasons for these failures were attributed to rapid expansion, financial crisis, weak corporate governance, and weak expertise of the Board of Directors

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[13] Listed on HOSE in 2004, Bach Tuyet Cotton Company (BBT) is the market leader in the medical cotton products. In 2005, BBT made a huge investment in its women's sanitary napkin business but could not compete with foreign competitors. Having to pay huge principal and interest to the bank, BBT to have a net income loss continuously from 2006 - 2007, even stopped working from July 2008 and its stock was delisted in August 2009.

[14] Vien Dong Pharmacy Company (DVD) was listed on HOSE in 2009 and looked very promising with ROE of 60.5%. However, in August 2011, HOSE suddenly announced that DVD would file for bankruptcy and its stock would be delisted. The CEO was arrested for allegation against creating fake transactions to manipulate stock prices.

(Nguyen et al., 2019; Vu et al., 2018). It was no surprise that the Corporate Governance Scorecard published in 2012 by the IFC revealed a downward trend in corporate governance scores of Vietnamese listed firms, decreasing from 43.9 in 2009 to 42.5 in 2011 and these scores are lower than most other ASEAN countries. Therefore, implementing new laws, granting enhanced powers to the regulatory agencies, and strengthening enforcement remain the three key challenges in corporate governance for Vietnam (Connelly et al., 2017).

However, Vietnam has taken steps to improve its corporate governance practices. The year 2012 witnessed an important change in corporate governance regulations with the establishment of Circular 121. The Circular amend current regulations on several aspects such as the Board of Directors, the Supervisory Board, and shareholder protection. However, the most important change is the "1/3 rule", requiring one-third of the board of directors in public non-listed[15] companies to be *non-executive*. For public listed companies, a stricter regulation applies: at least one-third of the board must be *independent*.

International corporate governance best practices often divide categories of directors into three types (though not necessarily mutually exclusive) that are executive, non-executive, and independent based on their responsibilities and relations to the company. In Vietnam, there was no clear distinction for these definitions and Circular 121 was the first legal document to define them:

- Non-executive director:
    i. Not a member of the company's Board of Management (i.e., not a CEO, Deputy CEO, or Chief Accountant of the company);
- Independent director:
    i. Not a member of the company's Board of Management; not related to a member of the company's Board of Management
    ii. Not a member of the Board of Management of associated companies (i.e. subsidiaries, parent company, and sister companies);
    iii. Not a major shareholder of the company; not a representative or a related person of a major shareholder of the company;
    iv. Not working at organizations that provide legal advice or auditing services for the company in the last two years;
    v. Not a partner or a relative of a partner of the company with an annual transaction value of at least 30% of the company's total revenue or the total value of purchased goods and services in the last two years.

At the same time, the Circular provided shareholders more flexibility in electing the board of directors. Particularly, the Circular removed the specific number of directors that shareholders are allowed to elect

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[15] According the the Securities Law 2006, Article 25, section 1: public companies are joint-stock companies of one of the following three types: (i) The company has offered its shares to the public but not yet listed; (ii) The company has stocks listed at the Stock Exchange or the Securities Trading Center; (iii) The company has shares owned by at least 100 shareholders, excluding professional securities investors and has a charter capital of at least VND 10 billion.

based on their shareholding percentage. [16] Unlike Decision 12, Circular 121 is fully mandatory and firms would be fined if they fail to comply with any rule regardless if they report their non-compliance or not. The amount of fine for non-complying firms also increases. Bringing important changes in corporate governance regulations, Circular 121 is the focus of my study.

It should be noted that Circular 121 was then replaced in 2017 by Decree 71/2017/ND-CP with higher regulatory validity. [17] This decree maintains the "1/3 rule" of independent directors but the condition applied to independent directors is stricter: they must not hold more than 1% of the shares in the company, compared to 5% as previously mandated by Circular 121. Besides, Decree 71 also stipulates that from Aug 1st, 2020, the CEO of a listed company is not allowed to concurrently be the Board Chairman.

With the support of international institutions such as OECD, World Bank, and IFC, Vietnam also adopts international best practices in corporate governance. The draft of the revised Enterprise Law in 2014 included many of the recommendations in the baseline report of World Bank (2006) (Connelly et al., 2017). In August 2019, with technical support from IFC and the Swiss State Secretariat for Economic Affairs, the State Securities Commission of Vietnam introduced a voluntary Corporate Governance Best Practices for public firms. Unlike the Corporate Governance Code, these are non-binding recommendations, and adoption by listed firms is voluntary. It includes standards that go beyond the minimum legal requirements, encouraging companies to move towards international best practices. Out of ten principles with detailed recommendations included, six principles focus on the responsibilities of the board of directors. The remaining four principles cover areas such as control environment, transparency and disclosure, shareholder rights, and stakeholder relations.

Through 15 years of reform starting from 2007, Vietnamese corporate governance has achieved positive results. OECD (2018) acknowledge that the improvement in Vietnamese regulations has improved information flow and allow investors to participate in the decisions of companies. Starting as one of the lowest-ranked countries for protecting investors in the world, Vietnam has significantly improved its Investor Protection Index from 2.0 points in 2007 to 5.3 in 2017 (out of a maximum score of 10) and these scores were close to the world median of 5.7 (World Bank, 2018).

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[16] Decision 12/2007/QĐ-BTC: A shareholder or group of shareholders holding less than 10% of the voting shares for at least six consecutive months may nominate one (01) member; from 10% to less than 30% may nominate two (02) members; from 30% to less than 50% may nominate three (03) members; from 50% to less than 65% may nominate four (04) members and if 65% or more, nominate all members.

Circular 121/2012/TT-BTC: The shareholders holding voting shares for a continuous period of at least six (06) months up to the time of closing the list of attending shareholders have the right to include the number of voting rights to nominate candidates for the Board of Directors. The nomination of the candidate for the Board of Directors that the shareholders after voting the voting rights must comply with the provisions of law and the company's charter.

[17] Decree 71 was issued by the National Government while Circular 121 was issued by the Ministry of Finance. Regulatory validity of Vietnamese regulations in descending order: Constitution – Law – Resolution – Decree – Circular – Decision.

Table 1: Timeline of corporate governance development in Vietnam

Year	Event	Issuer	Compliance
1999	Issuance of the Enterprise Law	National Assembly	Mandatory
2005	Revision of the Enterprise Law	National Assembly	Mandatory
2006	Issuance of the Securities Law	National Assembly	Mandatory
2007	Issuance of the first Corporate Governance Code for Vietnamese listed companies (Decision 12/2007/QD-BTC)	Ministry of Finance	Semi-mandatory
2010	Revision of the Securities Law	National Assembly	Mandatory
2012	Revision of the Corporate Governance Code (Circular 121/2012/TT-BTC, replacing Decision 12/2007/QD-BTC)	Ministry of Finance	Mandatory
2014	Revision of the Enterprise Law	National Assembly	Mandatory
2017	Revision of the Corporate Governance Code (Decree 71/2017/ND-CP, replacing Circular 121/2012/TT-BTC)	Ministry of Finance	Mandatory
2019	Issuance of the Corporate Governance Best Practice for public (listed and non-listed) companies	State Securities Commission	Voluntary

2.6 Hypothesis development

The relationship between earnings management and board independence

According to agency theorists, independent directors can effectively perform agency-related tasks such as appointing, compensating, monitoring, and firing executive managers. While benefits of earnings management accrue primarily to executive directors (Weisbach, 1988), independent directors face significant costs from earnings management such as the loss of reputation as effective monitors (Fama & Jensen, 1983; Weisbach, 1988). The associated costs are predicted to provide independent directors with good incentives to ensure reliable earnings reporting. Therefore, outside directors help to reduce the principal-agent problem. Independent directors, as opposed to executive directors, have fewer connections with major shareholders and thus, are more likely to ensure fair treatment towards minority shareholders (Kim et al., 2007). Outside directors also play an important role in minimizing the principal-principal problem.

Under the resource dependence theory, independent directors may bring diversified expertise to the board. Peasnell et al. (2000) suggest that non-executives directors often hold senior management positions in other large firms and thus, they have the necessary skills to monitor managers. Many of them also have expertise in finance and accounting. For example, Nguyen et al. (2017) find that 41% of independent directors in Vietnam specializing in accounting. Due to their experience and qualifications, independent directors are familiar with financial reporting issues and can identify misreporting cases. Thus, it is expected that a more independent board helps to reduce earnings management.

In alignment with the stakeholder theory and the stewardship theory, independent directors have incentives to develop their reputation as experts in decision control and are more concerned about their

image in the eyes of other stakeholders (Fama & Jensen, 1983). Therefore, they are motivated to ensure the effective monitoring of the company and be a steward of the company. Serving as directors of well-run companies signals their competence and prestige to the job market. Consequently, outside directors are assumed to be less influenced by management and therefore, discharge a better monitoring role compared to executive directors.

As independent directors can effectively oversee managers in the reporting process, it is expected that earnings management is mitigated by the inclusion of independent directors on the board. This view is supported by various studies (i.e. Ali & Zhang, 2015; Dechow et al., 1996; Peasnell et al. 2000). Based on the theories discussed and the empirical evidence, the first hypothesis of this study is formulated as follows:

Hypothesis 1: Board independence reduces accrual earnings management among Vietnamese listed firms.

The impact of regulatory reform on board independence and earnings management

Circular 121 may not have a direct impact on earnings management because improving financial reporting is not at the heart of Circular 121. However, Circular 121 may have a moderating impact on earnings management via board independence. The circular imposes stricter regulations on board independence and it provides a benchmark for investors to evaluate a firm's governance practices. Therefore, firms that do not comply with the "1/3 rule" are forced to hire more independent directors. Eventually, firms establish a clearer separation in management and control by increasing board independence which in turn, reduces earnings management.

This proposition is supported by a number of other studies. For example, using a balanced sample of English companies to examine the effectiveness of the Cadbury Report issued in 1992, Peasnell et al. (2000) found less income-increasing accruals when the proportion of outside directors is high in the post-Cadbury period. Chen & Zhang (2014) conducted a study on 447 Chinese listed firms from 2000–2006 and report that the magnitude of earnings management measured by discretionary accruals decreased considerably after the introduction of the Chinese Corporate Governance Code in 2002 which mandates more independent directors on the board.

All else equal, if Circular 121 has helped to increase board independence and thereby, improve board effectiveness in monitoring managers, one might expect the relationship between board independence and earnings management to be more pronounced after the Circular came into effect. Therefore, the second hypothesis of this study is formulated as follow:

Hypothesis 2: The negative relationship between board independence and accrual earnings management among Vietnamese listed firms is more pronounced in the post-Circular period.

CHAPTER 3: METHODOLOGY

3.1 Testing methodology

3.1.1 Regression analysis

Studies that investigate the relationship between earnings management and board independence commonly use linear regression analysis (i.e. Klein, 2002; Osma & Noguer, 2007; Peasnell et al., 2005; Sarkar et al., 2008; Ye, 2014). To examine the moderating effect of corporate governance reform on this relationship, regression analysis is also the most popular approach. Researchers typically use a dummy variable that represents the reform period and interact this variable with the independent variable of interest. For example, Peasnell et al. (2000) use the interaction term between the proportion of non-executive directors and the dummy variable representing the post-Cadbury period and regress it against abnormal accruals. Other studies with a similar approach include those of Chen & Zhang (2014); Cohen et al. (2007); Lobo & Zhou (2009). Consistent with previous research, I also use linear regression analysis in my study.

There are different linear regression approaches for panel data. Ordinary Least Square (OLS) is one of the most used approaches in studying board independence, earnings management, and corporate governance reform (i.e. Chen & Zhang, 2014; Cohen et al., 2007; Lobo & Zhou, 2009; Peasnell et al., 2000). A firm's individual characteristics (or individual effects) typically exist within a panel data design. For instance, the business practices of a company may influence its choice of directors which then influence earnings management. A failure to include these effects may bias the results (Torres-Reyna, 2007). Therefore, to account for the heterogeneity among observations, industry and year fixed effects are usually included (i.e. Chen et al., 2011; Chen & Zhang, 2014).

Besides OLS, the fixed-effect model (FEM) and random-effect model (REM) are also used by several studies in corporate governance (i.e. Bai et al., 2004; Kim et al., 2007). Because FEM and REM take into account unique effects at the firm level, it is unnecessary to control for unobserved industry effects or year effects like in OLS. It should be noted that FEM and REM are largely different in their assumptions. FEM assumes that individual effects are correlated with the independent variables while REM assumes that such individual heterogeneity is uncorrelated with the independent variables (Schmidheiny, 2019). In other words, FEM controls for all time-invariant unobserved variables, whereas REM can estimate only those that are explicitly introduced to the model.

To check for the existence of random effects, the Breusch – Pagan Lagrange Multiplier test can be used (Baltagi, 2013). The null hypothesis of this test is that the variance of errors is dependent on the predictor variables. If the null hypothesis is rejected, there is evidence of random effects. To check for the presence of fixed effects within the data, the F-test can be used (Baltagi, 2013). The null hypothesis of this test is that parameters of fixed effects are jointly zero, implying that there is no individual variation or unique characteristics among firms. If the null hypothesis is rejected, we can conclude that there are fixed effects in the model. A model may have both fixed and random effects. In this case, the Hausman test can be

used to decide whether FEM or REM is more suitable (Hsiao, 2014). The null hypothesis of this test is that unique errors are not correlated with the predictor variables and thus, REM is the preferred model. If the null hypothesis is rejected, then FEM should be used instead.

Consistent with previous studies, I will use the OLS model with industry and year fixed effects. Besides, I also use FEM and REM to cross-check the results of OLS.

3.1.2 Collinearity and multicollinearity test

Collinearity is a situation in which two independent variables in multiple regression are highly correlated. For example, board size and board independence may be highly correlated because larger boards tend to have more independent directors. Even if collinearity does not directly reduce the model's statistical power, it complicates the interpretation of results because of interrelationships among variables (Hair, 2014). The most popular way to identify collinearity is to construct a correlation matrix. The presence of high correlations is the first indication of substantial collinearity. As a rule of thumb, a coefficient above 0.5 indicates considerable correlation (Hair, 2014).

However, low correlation coefficients do not ensure a lack of multicollinearity, which is defined as a correlation among three or more variables. Although panel data is rarely plagued with multicollinearity (Baltagi, 2013), I still check for the degree of multicollinearity in my model using the Variance Inflation Factor (VIF). VIF is the inverse of tolerance value which is defined as the amount of variability of the selected independent variable not explained by the other independent variables. This means that a large VIF value is evidence of high multicollinearity among predictor variables. It is suggested that a VIF value above 3 indicates substantial multicollinearity (Hair, 2014). According to York (2012), there are two solutions in case of multicollinearity besides dropping variables. The first approach is to simply estimate the model like any other model but then discount its statistical significance. The second approach is to somehow combine the set of collinear variables and use a single combined variable.

3.2 Model specification

To test the hypothesis, I use earnings management which is measured by abnormal accruals (discretionary accruals) as the dependent variable. The main independent variables are board independence and its interaction term with a dummy variable representing the reform period. Several other control variables are also included. This model is similar to that of Peasnell et al., (2000) and Chen & Zhang (2014).

$$AbsDA_{it} = \alpha + \beta_1 IND_{it} + \beta_2 REFORM_{it} + \beta_3 IND_{it} * REFORM_{it} + \beta_g GOVERNANCE_{it} + \beta_f FIRM\_CHARACTERISTICS_{it} + INDUSTRY_i + YEAR_t + \varepsilon_{it}$$

GOVERNANCE and FIRM_CHARACTERISTICS are two groups of control variables. Please refer to Table 2 below for more details of the variables in this model.

Table 2: Summary of variable definition

Variable	Definition	References	Predicted Sign
Dependent variable			
Earnings management (AbsDA)	The absolute value of discretionary (abnormal) accruals	Dechow et al., 1995; Dechow & Dichev, 2002; Jones, 1991; Kothari et al., 2005	
Independent variables			
Board independent (IND)	Percentage of independent directors on the Board of Directors.	Chen & Zhang, 2014; Peasnell et al., 2000	-
Post-Circular 121 (REFORM)	Dummy variable: 1 if the year is from 2013 – 2016, 0 otherwise.	Chen & Zhang, 2014; Cohen et al., 2007; Lobo & Zhou, 2009; Peasnell et al., 2000	-
Control variables – GOVERNANCE			
CEO duality (DUAL)	Dummy variable: 1 if the CEO is also the Board Chairman, 0 otherwise	Klein, 2002; Lo et al., 2010	+
Board size (BOARD_SIZE)	Total number of directors on the Board of Directors.	Jaggi & Leung, 2007; Xie et al., 2003	-
Female director (WOMEN)	Dummy variable: 1 if there is at least one woman on the Board of Directors, 0 otherwise	Arun et al., 2015; Gavious et al., 2012	-
Ownership concentration (OWN_CON)	Percentage of stocks held by all large shareholders, i.e. those whose ownership is at least 5%.	Bozec, 2008; Sáenz González & García-Meca, 2014	-
Managerial ownership (OWN_MNG)	Percentage of stocks held by the Board of Management	Wang & Yung, 2011; Yang et al., 2008	?
Foreign ownership (OWN_FOR)	Percentage of stocks held by foreign investors	Guo et al., 2015; Kim & Yoon, 2008	-
State ownership (OWN_STATE)	Percentage of stocks held by the State	Chen & Zhang, 2014; Hoang et al., 2017	+
Big4 external auditor (BIG4)	Dummy variable: 1 if a firm is audited by a Big 4 auditor, 0 otherwise.	Becker et al., 1998; Rusmin, 2010	-
Control variables – FIRM CHARACTERISTICS			
Firm size (SIZE)	Natural logarithm of a company's total assets	Jensen & Meckling, 1976; Kinney & McDaniel, 1989	-
Leverage (LEV)	Long-term debt divided by total assets	DeFond & Jiambalvo, 1994; Watts & Zimmerman, 1990	+
Growth (GROWTH_A)	The percentage of change of this year assets compared to last year assets	Ali and Zhang, 2015; (Yu, 2008)	+
Firm performance (ROA)	Operating income (EBIT) divided by total assets	Dechow et al., 1995; Lee et al., 2006	-
Operating cash flow (OCF)	Operating income before depreciation minus working capital divided by lagged total assets. Working capital is current assets minus current liabilities	Lobo & Zhou, 2009; Peasnell et al., 2000	-
INDUSTRY	Industry dummies	Chen et al., 2011; Chen & Zhang, 2014	
YEAR	Year dummies	Chen et al., 2011; Chen & Zhang, 2014	

3.3 Dependent variable

3.3.1 Jones model

The dependent variable in this study is earnings management. Jones (1991) measures earnings management using total accrual which is defined as a function of revenue growth, and property, plant, and equipment (PPE). Total accruals are then decomposed into discretionary (abnormal) and non-discretionary (normal) accruals. While non-discretionary accruals reflect truthful adjustments that are related to firms' business conditions, discretionary accruals capture distortions from the manipulation of the accounting principles (Dechow & Ge, 2006).[18] Therefore, a higher level of discretionary accruals is an indication of earnings management.

In the Jones model, earnings management can be calculated with four steps:

- Step 1: Calculate total accruals for each firm-year observation. Total accruals are the change in non-cash working capital before income taxes payable less total depreciation expense. The change in non-cash working capital before taxes is defined as the change in current assets other than cash and short-term investments less current liabilities other than current maturities of long-term liabilities:

$$TA_{it} = \frac{\Delta CA_{it} - \Delta CL_{it} - (\Delta CASH_{it} - \Delta STD_{it}) - DEPRE_{it}}{A_{it-1}}$$

- Step 2: Regress total accruals against sales growth and PPE separately for each year and industry using cross-sectional OLS regression:

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

- Step 3: Discretionary accruals (DA) is the residuals of the regression in step 2:

$$DA_{it} = \varepsilon_{it}$$

3.3.2 Modified-Jones model

One problem with the Jones model is its low explanatory power, explaining only about 10% of the variation in accruals. The Jones model assumes that nondiscretionary accruals are stable over time after adjusting for business conditions and that revenue growth is fully nondiscretionary. Dechow et al. (1995) argue that managers have considerable discretion over the accrual process and thus, they can mask manipulation as fundamental performance. There are certain situations when revenues are manipulated by the use of credit sales. For example, when managers use discretion to accrue revenues at year-end when the cash has not yet been received and it is highly questionable whether the revenues have been earned. The result of this managerial discretion will be an increase in revenues and total accruals (through

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[18] In this study, the terms discretionary/ non-discretionary accruals are used interchangeably with abnormal/ normal accruals, even though it is a somewhat loaded term that seems more associated with an active choice (abnormal) rather than an outcome of the measurement system or error (discretionary).

an increase in receivables). Therefore, Dechow et al. (1995) proposed a modified version of the Jones model which removes changes in receivables from changes in sales. The modified Jones model assumes that managing earnings by exercising discretion over revenue recognition on credit sales is easier than on cash sales. This model facilitates higher explanatory power by yielding a residual that is uncorrelated with normal revenue accruals (Dechow et al., 2010). This also means that the modified Jones model reduce the type II error which classifies abnormal accruals as fundamental performance.

Discretionary accruals in this model can be calculated using four steps as in the Jones-model. The only difference is that in step 2, changes in receivables are subtracted from changes in revenue:

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

3.3.3 Kothari model

Both the Jones and modified-Jones models are subject to a high rate of type I error. This is because the residuals are positively correlated with total accruals, at about 80% (Dechow et al., 2003), meaning that a firm with high total accruals usually has high abnormal accruals. Such correlation raises concerns about whether abnormal accruals reflect accounting distortions. This means that these two models are subject to a high rate of type I error which classifies accruals as abnormal when they are a representation of fundamental performance.

Kothari et al. (2005) suggest that type I error can be mitigated by controlling for the normal level of accruals based on return on assets (ROA). Accordingly, discretionary accruals for both firms are calculated based on the standard Jones or modified Jones model which also takes into account ROA. However, it should be noted that residuals (discretionary accruals) generated by this model explain only 10–12% of the variation in accruals (Dechow et al., 2010). Thus, this approach tends to add noise when measuring discretionary accruals. Kothari model is calculated using four steps as in the Jones model. The only difference is that ROA of last year is added in step 2:

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

3.3.4 Approach used

Consistent with previous studies, the modified-Jones model is used to measure earnings management in my study. However, detecting earnings management is difficult as it comes from unobservable managerial intent and each model has its advantages and drawbacks. Thus, this study also employs the other two models to cross-check the results of the modified-Jones model.

The hypothesis of this study does not predict any specific direction for earnings management as managers have incentives to either increase or decrease income, as discussed earlier. Thus, I use the absolute value of discretionary accruals. As an additional advantage, the absolute value also captures accrual reversals following earnings management (Cohen et al., 2008).

3.4 Independent variables

3.4.1 Board independence

Although studies in corporate governance literature often use the term independent directors and the terms non-executive directors interchangeably, there is a clear distinction between these two concepts as specified by Circular 121. Circular 121 requires all listed firms in Vietnam to have at least one-third of independent directors on the board. Thus, I use the proportion of independent directors (IND) as a measurement for board independence in my study. This definition also reflects a higher level of board independence compared to using only the non-executive criterion as in other studies. IND is expected to be negatively correlated with AbsDA.

It should be noted that an independent director in my study is not exactly defined as in Circular 121. Before 2012, the word "independent" only means "non-executive". Therefore, the term "independent director" in firms' annual reports actually means different things before and after Circular 121. To arrive at one single consistent measure for board independence during the time range of my study, I did not use firms' classification but resort to other information available in annual reports to determine whether a director is independent or not. Most firms did not declare information about the relationship of their directors with business partners, legal advisors, or external auditors. Consequently, I could only check 3 out of 5 criteria as stipulated by Circular 121. However, this definition is closer to that of Circular 121 compared to the alternative definition of non-executive. As a robustness test, I also use the percentage of non-executive director (NED) as an indication of board independence. NED is declared by firms and is consistent across the years.

3.4.2 Corporate governance reform

I use a dichotomous variable denoted as REFORM to represent Circular 121. The interaction IND*REFORM is the second independent variable of interest. As stated in Hypothesis 2, this interaction term is expected to be negatively associated with earnings management. Circular 121 was issued on July 26th, 2012, by the Ministry of Finance and came into effect from September 17, 2012. Although Circular 121 was effective from September 17th, 2012, the "1/3 rule" started to be effective in 2013 to allow firms sufficient time to recruit independent directors. Therefore, the post-Circular period was chosen from 2013 onwards. Data were collected from 2009 to 2016. Thus, REFORM takes the value 0 for the years 2009 – 2012 (4 years) and 1 for the years 2013 – 2016 (4 years). The balance time range for the pre- and post-reform periods would help to produce an accurate comparison. In many studies (Liu & Yang, 2008; Peasnell et al., 2000), the year when the new regulation was introduced is removed because it is a transition year that is hard to determine if it should belong to the pre- or post-reform period. Although it is appropriate to include 2012 in the pre-Circular period as explained above, I also include a robustness test that removes the year 2012.

3.5 Control variables

Besides board independence and corporate governance reform, there are other mechanisms to mitigate opportunistic earnings management, such as (i) board diversity (e.g. board size, separation of CEO and Board Chairman, the presence of women directors), (ii) ownership structure (e.g. the presence of controlling shareholders, State shareholders, foreign shareholders, and manager shareholders), and (iii) auditing practices (e.g. the quality of external auditor). These mechanisms are employed as control variables together with firm characteristics.

3.5.1 Other corporate governance mechanisms

Board size: I include board size given the well-documented correlation between board size and earnings management. A large number of directors on board can bring multiple resources to the firms. However, as board size increases, it will be more difficult to coordinate, align interests, and reach consensus on important decisions (O'Reilly et al., 1989). Jensen (1993) suggests that larger boards produce a less candid discussion of managerial performance and reduce the board joint power in resisting CEO dominance. Thus, as board size increase, earnings management also increase (Abdul Rahman & Haneem Mohamed Ali, 2006).

CEO duality: According to the agency theory, the principal-agent problem is likely to occur when the CEO also takes the leading role of the board. Jensen (1993) noted that such a dual role would hinder the board's ability to independently monitor the CEO. Directors would be unable or unwilling to evaluate the performance of a CEO with a dual role as he or she may be too powerful. Without effective monitoring from board members, the CEO would be able to "grade his or her homework" (Brickley et al., 1997, p.190) and have immense power to manage earnings. Klein (2002) and Dechow et al. (1996) document an increase in discretionary accruals when the CEO is also the Board Chairman. Lo et al. (2010) find that companies with CEO duality are more likely to manipulate earnings. Therefore, it is expected that CEO duality is positively correlated with earnings management.

Presence of women directors: According to the resource-based theory, women directors, due to their different life experiences, contribute diverse perspectives to the boardroom and help to improve the quality of board decisions (Huse & Grethe Solberg, 2006). A board with gender diversity discharges their monitoring role better as women directors tend to be more careful and require more audit efforts and managerial accountability (Adams & Ferreira, 2009). Thus, the presence of female directors on the board would help to mitigate earnings management as documented by several studies (Arun et al., 2015; Gavious et al., 2012).

Ownership concentration: According to the agency theory, major shareholders, due to their larger stake, are more concerned with the firm performance. They often contribute to effective monitoring and help to reduce earnings management. In contrast, minority shareholders have little motivation to monitor managers and simply free ride on the effort of larger shareholders. Therefore, the monitoring performance of firms with a dispersed ownership structure may be inferior to those with more concentrated ownership (Dechow et al., 1996). Sáenz González & García-Meca (2014) find a negative

relationship between ownership concentration and earnings management among 435 listed Latin American firms. A similar finding is also documented by Bozec (2008) using 2057 firm-year observations for companies listed in Canada. Thus, ownership concentration is expected to have a negative relationship with earnings management.

Managerial ownership: There is contradictory evidence on the relationship between managerial ownership and earnings management. On the one hand, owner-managers are strongly incentivized to drive a good performance because after all, maximizing firm wealth is also maximizing their wealth. Wang & Yung (2011) find that managerial ownership is negatively related to earnings management. On the other hand, Yang et al. (2008) report a positive impact of managerial ownership on the level of discretionary accruals, suggesting that owner-managers may encourage the opportunistic behavior of the manager to manipulate earnings. Therefore, managerial ownership is expected to have a correlation with earnings management. However, no specific direction of this correlation is predicted.

Foreign ownership: From a resource-based view, firms need stakeholders with good monitoring capabilities to combat against earnings management. Foreign shareholders can be one of them as they may come from advanced markets with strong corporate governance (Douma et al., 2006). In contrast, domestic investors, due to their domestic affiliation, often have a complex web of business relationship with the firm and other domestic shareholders (Douma et al., 2006). Therefore, firms with higher foreign ownership are expected to manage earnings less. This view is supported by several studies include that of Guo et al. (2015) using 15,212 firm-year observations of Japanese listed firms and that of Kim & Yoon (2008) using 635 listed Korean firms.

State ownership: Perhaps among domestic investors, the State is an important player. In Vietnam, the State still holds large ownership in many listed companies. Chen & Zhang (2014) argue that controlling shareholders have strong incentives to mislead minority shareholders about economic performance by exaggerating firms' earnings so that they can extract more benefits from the firm. This is particularly the case when the State is the large shareholders because they have even more influence over the firm. Therefore, earnings management is expected to positively correlate with State ownership.

External auditor quality: Literature suggests that reputed external auditing service firms are more able to detect and mitigate earnings management due to their extensive experience in the field and highly qualified auditor employees (Rusmin, 2010). Based on a sample of 10,379 Big 6 and 2,179 non-Big 6 firm years in the U.S., Becker et al. (1998) find that the mean and median of absolute discretionary accruals are greater for firms hiring non-Big 6 auditors. This result also indicates that lower audit quality is associated with more "accounting flexibility". Rusmin (2010) examines listed companies in Singapore and concludes that the magnitude of earnings management is significantly lower amongst firms employing a Big 4 auditor relative to firms that do not.

3.5.2 Firm characteristics

Firm size: Extant literature suggests that earnings reliability is higher among larger firms because these firms are subject to greater political/regulatory scrutiny (Jensen & Meckling, 1976). In contrast, small firms

are more likely to have internal control deficiencies which allow managers more room to manipulate reported earnings (Kinney & McDaniel, 1989). Therefore, earnings management is expected to be negatively associated with firm size.

Leverage: If higher leverage is indicative of a firm that is closer to a debt covenant restriction, then managers in more highly levered firms could be taking action to boost income or manipulate the financial statements to satisfy debt covenant requirements (Watts & Zimmerman, 1990). DeFond & Jiambalvo (1994) report that managers use discretionary accruals to avoid costly debt covenant violations. Therefore, highly leveraged firms have greater incentives to manage earnings and leverage is expected to positively correlate with earnings management.

Growth in assets: McNichols (2000) concludes that firms with higher growth rates are subject to a higher degree of earnings management. This is because when the speed at which firms grow exceeds the monitoring capacity of the board, internal control problems usually emerge. Taking into account these arguments, I include firm growth in assets as a control variable to account for cross-sectional differences among firms.

Firm performance: Prior empirical studies find that discretionary accruals estimated from the standard and modified Jones models are correlated with performance and expected future earnings growth. Houqe et al. (2010) and Lee et al. (2006) document that discretionary accruals estimated from the Jones model are negatively correlated with ROE. Therefore, I include firm performance measured by ROE as a control variable.

Operating cash flow: In this study, I also control for operating cash flow because firms with strong operating cash flow performance are less likely to employ income-increasing discretionary accruals (Lobo & Zhou, 2009).

3.6 Data collection

Timespan: The time range is from 2009 – 2016, dividing into 2 periods: pre-reform period covering the years 2009 – 2012 and the post-reform period covering the years 2013 – 2016.

Stock exchanges: The study is conducted based on a sample of Vietnamese firms listed on both the Ho Chi Minh Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX).

Data sources: Financial information is extracted using two databases, namely ORBIS (orbis.bvdinfo.com) and Vietstock (finance.vietstock.vn).

Criteria: A few criteria will be applied to the initial sample:

- Banks, insurance companies, and financial institutions are excluded from the sample due to their special characteristics and the regulations governing them. They operate with very different cash

flow structures and capital policies. Thus, measurements for regular companies generally do not apply to these organizations.

- Each firm must have at least 3 observations, either in the pre- or post-Circular period.
- Each firm-year observation has the data necessary to calculate the discretionary accruals proxies employed in this study.
- Each industry must have at least ten observations per year, consistent with Peasnell et al. (2000)

The second criterion likely introduces a survivorship bias as it excludes smaller firms that are newly listed for less than 3 years. However, this bias likely reduces the variation in the earnings management metric, resulting in a more conservative test (Cohen et al., 2008). The initial sample is 754 firms which are all companies listed on HOSE and HNX as of June 2020. After applying the excluding criteria, the final sample includes 523 firms with 3774 firm-year observations. Excluding the financial industry, there are 9 industries according to NACE industry classification code.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Descriptive statistics

Table 3 presents descriptive statistics of all variables. AbsDA is absolute discretionary accruals calculated for each industry and year using the modified-Jones model. The mean (standard deviation) of AbsDA is 11.1% (11.2%) for the pre-reform period and 11.2% (11.4%) for the post-reform period. These numbers are much higher than in other countries. For example, mean (standard deviation) of absolute discretionary accruals measured by the modified-Jones model is 7.7% (17.3%) in the U.S. (Klein, 2002), 4.6% (2.5%) in Canada (Bozec, 2008), 7.4% (7.9%) in Taiwan (Chen et al., 2007), and 8.5% (6.2%) in China (Chen & Zhang, 2014).

There is a slight increase in AbsDA, however, this increase is not statistically significant. Similarly, there are no significant changes in both Positive_DA (income-increasing accruals) and Negative_DA (income-decreasing accruals). There are more observations with Negative_DA than with Positive_DA in the pre-reform period. However, this situation is reversed in the post-reform period. Lobo & Zhou (2009) consider companies with income-increasing (positive) discretionary accruals as aggressive and companies with income-decreasing (negative) discretionary accruals as conservative. This suggests that Vietnamese listed firms are more aggressive after the reform.

The mean IND for the full period is 41.0%. However, the standard deviation is quite high, at 22.2%, which means that there is a big gap in the board independence level between the best and the worst companies. Minimum value of IND is 0.0% (221 observations) and maximum value of IND is 100.0% (32 observations). Mean IND also increased from 37.3% pre-reform to 44.1% post-reform and this increase is statistically significant. Before the Circular, 59.3% of observations have at least one-third of independent directors on the board. After the Circular, although this number increased to 70.3%, 66 observations from 38 companies still did not have any independent directors. It should be noted that the criteria for an independent director as outlined in the rule are stricter than in my study and therefore, the actual mean of IND may be lower and the actual number of non-complying companies may be higher. For the means of IND and AbsDA by industry, please refer to Appendix 1. Mean NED is 59.5% and similar to IND, it also experienced an increase from 56.4% to 62.0%.

Figure 2 shows the movements in means of AbsDA and IND from 2009 – 2016. While AbsDA fluctuates, IND consistently increases over the years. The trend towards a more independent board is consistent with the results documented by the Report by IFC (2017) and other Vietnamese studies (To & Suzuki, 2019; Essa et al., 2016). However, the magnitude of change of IND from 2009 – 2012 seems to be higher than from 2013 – 2016.

The board size of all companies ranges from a minimum of 3 members to a maximum of 11 members which is consistent with the requirement of Circular 121. Because more independent directors have been fitted into the board, it is not surprising that the board size has increased. However, this increase is marginal, from 5.45 to 5.49 directors. This implies that most companies did not simply add independent

directors to their board. The board composition was probably adjusted by eliminating a few original directors because maintaining a larger board might be costly for firms.

Significant changes across the two windows are also evident for other control variables. For example, the propensity to appoint women directors on the board increased from 42.6% to 53.0%. Less CEO assumed the dual role of Board Chairman with a reduction from 40.6% to 27.2%. However, DUAL is still high compared to other countries (Lai, 2011; Lo et al., 2010). CEO duality is allowed by law if accepted by shareholders. The appointment of a lead independent director is still an unfamiliar practice in Vietnam (IFC, 2017). More companies also appointed Big 4 external auditors compared to the pre-Circular period.

The mean percentage of outstanding stocks owned by major shareholders increases from 46.9% to 50.0%, much higher than other countries (Bozec, 2008; Sáenz González & García-Meca, 2014). Managerial ownership also goes up from 7.4% to 9.7%. Foreign investors hold more shares on average, increasing from 5.5% to 7.8%. However, State ownership decreases from 27.6% to 19.6% which is in line with the equitization plan of the government. The State is a controlling shareholder with more than 50% ownership in 188 companies.

Overall, these results suggest that Vietnamese listed firms were adopting stronger corporate governance practices in the post-reform period. These results are also consistent with the report that overall corporate governance scores for Vietnamese listed firms improved from 2012 – 2016 (IFC, 2017).

For firm characteristics, the mean leverage as measured by total liabilities over total assets is 49.9%. Mean assets growth of 23.1% and mean ROE of 12.4% is quite higher than in other countries (Sáenz González & García-Meca, 2014). The cash flow from operations scaled by total assets is 13.2%.

Before conducting regression analysis, the relationship between the dependent, independent, and control variables can be briefly examined using Pearson's correlation matrix. Table 4 below shows the correlation coefficients and their significance. As can be seen, the highest coefficient of 0.47 is between BIG4 and FIRM_SIZE. This means that larger firms are more likely to hire Big4 external auditors. The second highest coefficient is 0.43 between OWN_CON and OWN_STATE. This is because most of the time, OWN_STATE is larger than 5% and therefore is counted in OWN_CON. All the other coefficients are below 0.4 thus giving little cause for concern due to the problem of collinearity. To make sure that there is no serious correlation between more than two variables, I also use check VIFs. All VIFs are less than 2, suggesting that the risk of bias due to multicollinearity is minimal. Please refer to Appendix 2 for details of VIFs. Overall, all the proposed variables in the model can be retained.

Table 3: Descriptive statistics

	Pre-reform (2009 – 2012)				Post-reform (2013 – 2016)				Difference	
	N	Mean	S.D.	Median	N	Mean	S.D.	Median	Change	T-stat
AbsDA	1694	0.111	0.112	0.079	2069	0.112	0.114	0.080	-0.001	-0.25
Positive_DA	828	0.110	0.113	0.074	1119	0.117	0.122	0.080	0.002	0.51
Negative_DA	866	-0.109	0.096	-0.082	950	-0.104	0.092	-0.080	0.003	0.76
NED	1695	0.564	0.195	0.600	2069	0.620	0.189	0.600	0.052***	8.05
IND	1678	0.373	0.220	0.400	2068	0.441	0.220	0.400	0.065***	9.17
BOARD_SIZE	1705	5.450	1.164	5.000	2069	5.493	1.109	5.000	0.070**	2.15
DUAL	1701	0.406	0.491	0.000	2069	0.272	0.445	0.000	-0.134***	-7.75
WOMEN	1701	0.426	0.495	0.000	2069	0.530	0.499	1.000	0.110***	7.15
OWN_CON	1666	0.469	0.205	0.510	2067	0.500	0.212	0.519	0.037***	6.44
OWN_MNG	1656	0.074	0.119	0.020	2066	0.097	0.123	0.040	0.025***	5.60
OWN_FOR	1670	0.055	0.111	0.003	2061	0.078	0.123	0.019	0.027***	7.62
OWN_STATE	1683	0.273	0.245	0.260	2066	0.196	0.245	0.000	-0.071***	-13.06
BIG4	1677	0.185	0.389	0.000	2069	0.240	0.427	0.000	0.072***	6.27
FIRM_SIZE (€ Mil.)	1705	54.37	143.63	6.78	2069	80.48	283.42	20.265	30.42***	22.25
LEV	1705	0.508	0.214	0.541	2069	0.492	0.223	0.512	-0.011**	-2.15
GROWTH_A	1704	0.350	7.475	0.110	2069	0.132	0.458	0.053	-0.221	-1.29
ROA	1705	0.075	0.084	0.057	2069	0.059	0.084	0.046	-0.017***	-6.85
OCF	1694	0.142	0.213	0.118	2069	0.124	0.205	0.104	-0.023***	-3.47

AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Figure 2: Movements in mean earnings management and board independence from 2009 – 2016
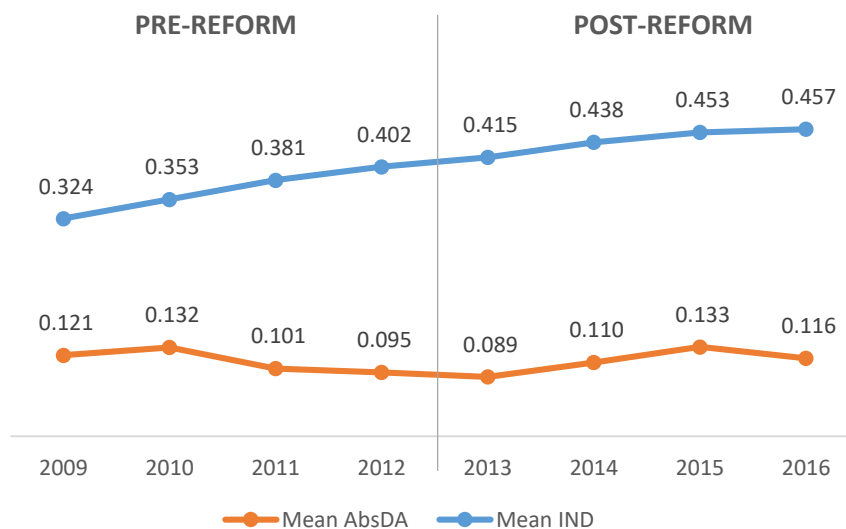
Table 4: Pearson correlation matrix

	AbsDA	IND	REFORM	BOARD_SIZE	DUAL	WOMEN	OWN_CON	OWN_MNG	OWN_FOR	OWN_STATE
AbsDA	1.00									
IND	0.01	1.00								
REFORM	0.00	0.15***	1.00							
BOARD_SIZE	-0.04*	0.09***	0.00	1.00						
DUAL	-0.01	-0.05**	-0.14***	0.01	1.00					
WOMEN	0.02	0.01	0.10***	0.09***	0.03	1.00				
OWN_CON	-0.04*	-0.14***	0.07***	-0.02	-0.15***	-0.03	1.00			
OWN_MNG	-0.01	-0.18***	0.09***	0.01	0.25***	0.06***	0.14***	1.00		
OWN_FOR	-0.04*	0.09***	0.10***	0.25***	-0.01	0.11***	0.10***	-0.02	1.00	
OWN_STATE	-0.08***	-0.21***	-0.16***	-0.12***	-0.11***	-0.19***	0.43***	-0.10***	-0.18***	1.00
BIG4	-0.04**	0.12***	0.07***	0.16***	-0.08***	-0.02	0.17***	0.00	0.27***	0.02
FIRM_SIZE	-0.01	0.05**	0.07***	0.30***	-0.04*	0.03	0.14***	0.05**	0.26***	-0.00
LEV	-0.00	-0.12***	-0.04*	-0.03	0.02	-0.10***	0.04*	0.06***	-0.16***	0.10***
GROWTH_A	0.29***	0.04*	-0.04*	0.03	-0.00	0.01	-0.03	-0.03*	0.01	-0.10***
ROA	-0.00	-0.06***	-0.10***	0.06***	-0.00	0.02	0.10***	-0.04*	0.11***	0.10***
OCF	0.18***	-0.03	-0.04*	0.04**	0.01	0.02	0.05**	-0.02	0.08***	0.00

	BIG4	FIRM_SIZE	LEV	GROWTH_A	ROA	OCF
BIG4	1.00					
FIRM_SIZE	0.47***	1.00				
LEV	0.05**	0.34***	1.00			
GROWTH_A	-0.00	0.12***	0.05**	1.00		
ROA	-0.00	-0.07***	-0.41***	0.09***	1.00	
OCF	-0.00	0.00	-0.29***	0.31***	0.54***	1.00

AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

4.2 Regression results

Table 5 reports the regression results using OLS with industry and year fixed effects. The number of observations is 3624 which is lower than the total sample size because the regression only includes firm-year observations that have no missing data for all variables. The main model is Model 2 which includes all the variables of interest. Model 1 excludes the interaction term IND*REFORM. Model 3 – 7 excludes a few corporate governance variables to test for the robustness of Model 2. The adjusted R-square of all models ranges from 10.3% to 11.7% which is similar to other studies on earnings management in Vietnam (e.g. Essa et al., 2016; Hoang et al., 2017).

The F-test and Breusch-Pagan Lagrangian Multiplier test are both significant at the 1% level, indicating that there are both fixed effects and random effects in the model. Therefore, as a robust check, I also present the results of FEM and REM in Appendix 4 and Appendix 5. Woolridge test for autocorrelation has a p-value of 0.007, suggesting the presence of the autocorrelation within the model. As a remedy, I use robust standard errors with all the three regression models (Baltagi, 2013; Bliss et al., 2015).

4.2.1 Board independence

In Model 1, the coefficient of IND is negative but insignificant, meaning that the proportion of independent directors does not have an impact on the reliability of reported earnings information among Vietnamese listed companies. Therefore, Hypothesis 1 is rejected. This finding is contrasting to the mainstream of theories and empirical evidence and it puts the role of Vietnamese independent directors into question. This correlation remains insignificant in the post-reform period. In Model 2, both IND and the dummy variable REFORM are negative but insignificant. Interestingly, the interaction term IND*REFORM is positive (0.009) which is contrasting to the initial expectation. However, this coefficient is statistically insignificant. The results in Model 3 – 7 provides similar results. These results are consistent in the robustness tests using FEM (Appendix 4) and REM (Appendix 5).

Overall, after controlling for corporate governance and firm characteristics variables, there is no evidence that Circular 121 helps to strengthen the monitoring role of the board of directors who are responsible for reducing earnings management. Therefore, Hypothesis 2 is also rejected. This finding is contrasting to the majority of studies in advanced markets such as the U.S. or the U.K. (Cohen et al., 2008; Lobo & Zhou, 2009; Peasnell et al., 2000). However, it is similar to studies in Vietnam and other emerging markets. For example, Vu et al. (2018) find that the independent directors, the number of women directors, and Chairman – CEO duality have no significant impact on the performance of Vietnamese firms.

Some studies even find that board independence increase earnings management and decrease firm performance. A study done by Nguyen et al. (2017) reveals that independent directors have an overall negative effect on firm operating performance and this negative relationship is stronger in firms where the State is a controlling shareholder. In China, firms with more independent boards manage earnings more during the IPO process (Liu et al., 2014). Studying the Taiwanese market, Chen et al. (2007) find that that the mandatory formation of independent directorships is associated with higher earnings management following the enactment of the Corporate Governance Best-Practice Principles.

4.2.2 Other corporate governance mechanisms and firm characteristics

The coefficient of BOARD_SIZE is negative and significant at the 5% level across all the models. This means that a smaller board helps to reduce earnings management which is consistent with the notion that as board size increases, it will be more difficult to produce a candid discussion and to reach consensus on important decisions, all of which reduce the board joint power in resisting CEO dominance (Jensen, 1993; O'Reilly et al., 1989). Thus, a larger board monitors managers less effectively. In contrast, there is no evidence that CEO duality (DUAL), women directors (WOMEN), and reputation of external auditors (BIG4) are correlated with earnings management.

Regarding ownership structure, only OWN_FOR is found to have a significant effect on earnings management. The coefficient for OWN_FOR is negative and significant at the 5% levels in all the 4 models in which it is included, suggesting that foreign investors are effective monitors and help to reduce earnings management. Often coming from advanced markets, foreign shareholders bring good corporate governance practices with them to markets with weaker corporate governance regimes (Douma et al., 2006). The coefficient of OWN_STATE is negative and significant at the 10% level in Model 1 and Model 3. However, it is insignificant in all the other models. Overall, there is no consistent evidence that OWN_STATE, OWN_CON, and OWN_MNG helps to reduce earnings management. Contrasting with extant literature, major shareholders, owner-managers, and the State do not act as monitoring mechanisms to mitigate opportunistic behavior among managers.

FIRM_SIZE is significantly negative in 4 out of 7 regression models, suggesting that larger firms manage earnings less because they are subject to greater regulatory scrutiny and investor attention (Jensen & Meckling, 1976). LEV is insignificant in all models. GROWTH_A is positive and strongly significant at the 1% level. This result indicates that high growth companies tend to have less reliable earnings. This is probably due to internal control problems when the speed at which firms grow exceeds the monitoring capacity of the board (McNichols, 2000). Firm performance as measured by ROA is also significantly negative across all the models, indicating that firms with lower performance are likely to manage earnings more to meet performance targets and investor expectations (Dechow et al., 1995; Lee et al., 2006). In contrast to my expectation, OCF is positively correlated with AbsDA and this correlation is strongly significant at the 1% level across all models. Firms with strong operating cash flows tend to be more opportunistic and manage earnings to a higher extent. Burgstahler & Dichev (1997) explain that operating cash flows may be a tool for firms to manage earnings rather than a cause.

Table 5: Regression results of the main model using OLS

	Exp. Sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND	-	-0.003	-0.008	-0.008	-0.007	-0.007	-0.008	-0.011
		(-0.34)	(-0.63)	(-0.62)	(-0.58)	(-0.57)	(-0.61)	(-0.86)
REFORM	-		-0.009	-0.008	-0.006	-0.007	-0.006	-0.009
			(-0.76)	(-0.63)	(-0.55)	(-0.64)	(-0.51)	(-0.83)
IND*REFORM	-		0.009	0.008	0.010	0.010	0.011	0.013
			(0.53)	(0.48)	(0.60)	(0.62)	(0.69)	(0.78)
BOARD_SIZE	-	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.003**	-0.004**
		(-2.28)	(-2.29)	(-2.25)	(-2.37)	(-2.26)	(-1.99)	(-2.42)
DUAL	+	-0.004	-0.004		-0.004	-0.003	-0.004	-0.004
		(-0.87)	(-0.91)		(-0.96)	(-0.65)	(-0.99)	(-0.99)
WOMEN	-	0.004	0.004		0.004	0.005	0.005	0.004
		(1.12)	(1.11)		(1.18)	(1.29)	(1.41)	(1.14)
OWN_CON	-	0.001	0.001	0.002	-0.008			
		(0.06)	(0.05)	(0.18)	(-0.87)			
OWN_MNG	?	-0.011	-0.010	-0.014		-0.007		
		(-0.68)	(-0.62)	(-0.88)		(-0.43)		
OWN_FOR	-	-0.034**	-0.034**	-0.034**			-0.031**	
		(-2.12)	(-2.11)	(-2.10)			(-1.99)	
OWN_STATE	+	-0.015*	-0.015	-0.016*				-0.012
		(-1.65)	(-1.64)	(-1.76)				(-1.46)
BIG4	-	-0.004	-0.004	-0.004	-0.005	-0.006	-0.004	-0.005
		(-0.79)	(-0.77)	(-0.80)	(-1.08)	(-1.33)	(-0.85)	(-1.11)
FIRM_SIZE	-	-0.002	-0.002	-0.002	-0.003**	-0.003**	-0.003*	-0.003**
		(-1.46)	(-1.48)	(-1.41)	(-2.12)	(-2.06)	(-1.77)	(-2.18)
LEV	+	-0.003	-0.003	-0.005	-0.001	-0.001	-0.005	0.001
		(-0.28)	(-0.27)	(-0.36)	(-0.09)	(-0.11)	(-0.40)	(0.09)
GROWTH_A	+	0.067***	0.067***	0.067***	0.068***	0.069***	0.068***	0.068***
		(5.58)	(5.58)	(5.59)	(5.70)	(5.70)	(5.68)	(5.68)
ROA	-	-0.142***	-0.141***	-0.142***	-0.144***	-0.145***	-0.147***	-0.140***
		(-2.64)	(-2.63)	(-2.63)	(-2.73)	(-2.77)	(-2.80)	(-2.64)
OCF	-	0.082***	0.082***	0.082***	0.082***	0.082***	0.082***	0.082***
		(3.41)	(3.41)	(3.39)	(3.44)	(3.44)	(3.46)	(3.44)
Constant		0.160***	0.163***	0.161***	0.168***	0.163***	0.157***	0.170***
		(7.23)	(7.19)	(7.13)	(7.64)	(7.41)	(7.05)	(7.75)
N		3624	3624	3624	3682	3674	3677	3694
Adjusted R2		0.117	0.117	0.117	0.116	0.116	0.117	0.117
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

4.3 Additional analysis

Dechow & Ge (2006) suggest that earnings are affected not only by the magnitude and but also by the sign of discretionary accruals. Positive accruals are indicative of firms increasing their assets, while negative accruals are indicative of firms reducing their asset base and downsizing. The accounting rules that apply to growing and declining firms differ vastly (Dechow & Ge, 2006). Specifically, negative accrual firms have more transitory earnings than positive accrual firms because of balance sheet adjustments relating to special items. For example, they find that in almost all firms with large negative accruals that also had special items, the special items are accrual adjustments (e.g. impairment charges). Therefore, examining firms with negative and positive accruals separately may provide additional insights into earnings management.

As shown in Table 6, for Positive_DA, the coefficient of IND is insignificant. For Negative_DA, IND is significantly positive at the 10% level in both Model 1 (0.022) and Model 2 (0.037). This means that independent directors help to decrease earnings management in firms that manage earnings upward but have no impact on firms that manage earnings downward. Please note that for Negative_DA, less earnings management means higher value (or less negative and closer to 0), which is opposite to Positive_DA. Lobo & Zhou (2009) regard companies with income-increasing (positive) discretionary accruals as aggressive and those with income-decreasing (negative) discretionary accruals as conservative. Thus, independent directors discharge their monitoring role and help to reflect more accurate earnings information in conservative firms but not aggressive firms.

The interaction term IND*REFORM remains insignificant when regressed against Positive_DA and Negative_DA. These results suggest that under mandatory formation, a more independent board has no impact on earnings management, whether it is to increase or to decrease income.

Table 6: Regression results using signed discretionary

	Exp. sign	Positive DA		Exp. sign	Negative DA	
		Model 1	Model 2		Model 1	Model 2
IND	-	0.012	0.012	+	0.022**	0.037**
		(1.03)	(0.77)		(2.10)	(2.42)
POST121	-		0.006	+		0.030**
			(0.39)			(2.18)
IND*POST121	-		-0.001	+		-0.027
			(-0.06)			(-1.41)
BOARD_SIZE	-	-0.005**	-0.005**	+	-0.001	-0.001
		(-2.40)	(-2.40)		(-0.66)	(-0.61)
DUAL	+	0.004	0.004	-	0.005	0.005
		(0.77)	(0.77)		(1.08)	(1.17)
WOMEN	-	0.006	0.006	+	-0.002	-0.002
		(1.29)	(1.29)		(-0.47)	(-0.45)
OWN_CON	-	-0.003	-0.003	+	-0.015	-0.014
		(-0.19)	(-0.19)		(-1.29)	(-1.22)
OWN_MNG	?	0.011	0.011	?	0.040**	0.037**
		(0.50)	(0.49)		(2.32)	(2.13)
OWN_FOR	-	-0.032	-0.032	+	0.021	0.020
		(-1.60)	(-1.60)		(1.16)	(1.10)
OWN_STATE	+	-0.018	-0.018	-	0.009	0.009
		(-1.56)	(-1.56)		(0.90)	(0.90)
BIG4	-	-0.009	-0.009	+	-0.001	-0.001
		(-1.51)	(-1.51)		(-0.19)	(-0.26)
FIRM_SIZE	-	0.001	0.001	+	0.004**	0.004**
		(0.39)	(0.39)		(2.29)	(2.34)
LEV	+	0.048***	0.048***	+	0.010	0.010
		(2.91)	(2.91)		(0.68)	(0.68)
GROWTH_A	+	0.050***	0.050***	+	0.017**	0.017**
		(2.93)	(2.92)		(2.21)	(2.26)
ROE	-	-0.331***	-0.331***	-	-0.247***	-0.248***
		(-5.81)	(-5.81)		(-2.91)	(-2.90)
CFO	-	0.294***	0.294***	-	0.271***	0.271***
		(8.42)	(8.42)		(10.16)	(10.17)
Constant		0.042	0.042		-0.187***	-0.195***
		(1.54)	(1.51)		(-6.45)	(-6.72)
N		1717	1717		1907	1907
Adjusted R2		0.385	0.384		0.162	0.163
Industry dummies		Yes	Yes		Yes	Yes
Year dummies		Yes	Yes		Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

4.4 Robustness tests

4.4.1 Alternative measurement of earnings management

Besides the modified-Jones model, I use the original Jones model (1991) and Kothari (2005) model as two alternative measurements for earnings management. Regression results using OLS with robust standard errors and industry-firm fixed effects presented in Table 7 show that except for FIRM_SIZE that becomes insignificant, all the other regression results are similar to the results found by the modified-Jones model. Thus, independent directors and corporate governance reform are ineffective in reducing earnings management across its different measurements.

4.4.2 Alternative measurements of board independence

Compared to independent directors, non-executive directors may face fewer challenges in monitoring managers and because they are more connected to the firms. For example, they may own a larger stake in the company or represent major shareholders and thus, may have more interest and power to effectively monitor managers. Therefore, I used NED which represents the percentage of non-executive directors on the board as an alternative proxy for board independence. Again, regression results as presented in Table 8 show that NED has no relationship with AbsDA. Non-executive directors still probably lack the knowledge and capabilities to discharge their monitoring role. The significance of other variables remains unchanged. Besides, I also test the results using the dummy variable IND_D denoting the presence of independent directors. Appendix 6 shows consistent results.

4.4.3 Alternative measurement of control variables

Different measurements of control variables might lead to different results. Therefore, as a sensitivity check, I use alternative definitions for several control variables as follow:

- OWN_CON_D is a dummy variable that takes the value 1 if shares owned by major shareholders is larger than 50% of outstanding shares (Ding, Zhang, & Zhang, 2007; Klein, 2002).
- OWN_STATE_2 is the square of holding owned by the State (Essa et al., 2016; Hoang et al., 2014).
- LEV_LOAN is leverage as measured by total loan outstanding divided by total assets (Ali and Zhang, 2015)
- GROWTH_S is growth in sales (McNichols, 2000)
- ROE is the return on assets divided by total assets (Houque, 2011)
- CFO_A is cash flow from operations calculated from working capital (account receivables – inventory – account payables (Ali and Zhang, 2015) lagged by total assets.

Results in Appendix 7 show that IND and IND*REFORM are still insignificant. OWN_STATE_2 and CON_D are still insignificant. Except for LEV_LOAN and GROWTH_S that is insignificant, all the other control variables are similar to the main results. Please refer to Appendix 3 for more details. Details of the descriptive statistics of alternative control variables are also shown in Appendix 7.

4.4.4 Excluding 2012 and sample partition

When examining the impact of regulation changes (Liu & Yang, 2008; Peasnell et al., 2000), many studies exclude the year when the regulation is issued because this year is transitional. Therefore, I also checked if removing 2012 changed the results. Accordingly, the new pre-reform period is from 2009 – 2011 (3 years). To create a comparable time window, the post-reform period is from 2013 – 2015 (3 years). Again, IND and IND*REFORM are insignificant across all 7 models. Please refer to Appendix 8 for more details.

Instead of using the interaction term with dummy variable REFORM, I also separate the sample according to the pre- and post-reform period and regress the two subsamples separately. Besides being a robustness test for board independence, running regression for each subsample may allow us to know more about the impact of Circular 121 on all the other control variables. Consistent with other tests, IND is insignificant in both the pre and post periods. More details of regression results are shown in Appendix 9.

Table 7: Regression results using alternative measurements of absolute discretionary accruals

	Exp. sign	Jones		Kothari	
		Model 1	Model 2	Model 1	Model 2
IND	-	-0.003	-0.008	-0.003	-0.008
		(-0.34)	(-0.63)	(-0.34)	(-0.63)
REFORM	-		-0.009		-0.009
			(-0.76)		(-0.76)
IND*REFORM	-		0.009		0.009
			(0.53)		(0.53)
BOARD_SIZE	?	-0.004**	-0.004**	-0.004**	-0.004**
		(-2.28)	(-2.29)	(-2.28)	(-2.29)
DUAL	+	-0.004	-0.004	-0.004	-0.004
		(-0.87)	(-0.91)	(-0.87)	(-0.91)
WOMEN	-	0.004	0.004	0.004	0.004
		(1.12)	(1.11)	(1.12)	(1.11)
OWN_CON	-	0.001	0.001	0.001	0.001
		(0.06)	(0.05)	(0.06)	(0.05)
OWN_MNG	?	-0.011	-0.010	-0.011	-0.010
		(-0.68)	(-0.62)	(-0.68)	(-0.62)
OWN_FOR	-	-0.034**	-0.034**	-0.034**	-0.034**
		(-2.12)	(-2.11)	(-2.12)	(-2.11)
OWN_STATE	+	-0.015*	-0.015	-0.015*	-0.015
		(-1.65)	(-1.64)	(-1.65)	(-1.64)
BIG4	-	-0.004	-0.004	-0.004	-0.004
		(-0.79)	(-0.77)	(-0.79)	(-0.77)
FIRM_SIZE	-	-0.002	-0.002	-0.002	-0.002
		(-1.46)	(-1.48)	(-1.46)	(-1.48)
LEV	+	-0.003	-0.003	-0.003	-0.003
		(-0.28)	(-0.27)	(-0.28)	(-0.27)
GROWTH_A	+	0.067***	0.067***	0.067***	0.067***
		(5.58)	(5.58)	(5.58)	(5.58)
ROA	-	-0.142***	-0.141***	-0.142***	-0.141***
		(-2.64)	(-2.63)	(-2.64)	(-2.63)
OCF	-	0.082***	0.082***	0.082***	0.082***
		(3.41)	(3.41)	(3.41)	(3.41)
Constant		0.160***	0.163***	0.160***	0.163***
		(7.23)	(7.19)	(7.23)	(7.19)
N		3624	3624	3624	3624
Adjusted R2		0.117	0.117	0.117	0.117
Industry dummies		Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Table 8: Regression results using the percentage of non-executive directors (NED) as an alternative measurement of board independence

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
NED	-	0.006	-0.011	-0.010	-0.007	-0.006	-0.007	-0.010
		(0.54)	(-0.75)	(-0.64)	(-0.46)	(-0.41)	(-0.44)	(-0.65)
REFORM	-		-0.026*	-0.024	-0.022	-0.022	-0.019	-0.025*
			(-1.74)	(-1.63)	(-1.55)	(-1.50)	(-1.36)	(-1.72)
NED*REFORM	-		0.031	0.030	0.028	0.027	0.027	0.030
			(1.57)	(1.52)	(1.48)	(1.41)	(1.44)	(1.57)
BOARD_SIZE	?	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.003**	-0.004**
		(-2.24)	(-2.28)	(-2.24)	(-2.37)	(-2.25)	(-2.00)	(-2.46)
DUAL	+	-0.003	-0.003		-0.003	-0.002	-0.003	-0.003
		(-0.70)	(-0.85)		(-0.74)	(-0.48)	(-0.73)	(-0.79)
WOMEN	-	0.004	0.004		0.004	0.005	0.005	0.004
		(1.13)	(1.11)		(1.23)	(1.29)	(1.43)	(1.20)
OWN_CON	-	-0.000	-0.000	0.001	-0.009			
		(-0.01)	(-0.04)	(0.07)	(-0.94)			
OWN_MNG	?	-0.009	-0.006	-0.009		-0.003		
		(-0.51)	(-0.34)	(-0.53)		(-0.18)		
OWN_FOR	-	-0.034**	-0.033**	-0.033**			-0.031**	
		(-2.13)	(-2.06)	(-2.05)			(-2.08)	
OWN_STATE	+	-0.014	-0.015	-0.015*				-0.011
		(-1.51)	(-1.57)	(-1.67)				(-1.39)
BIG4	-	-0.004	-0.004	-0.004	-0.005	-0.007	-0.004	-0.006
		(-0.85)	(-0.83)	(-0.88)	(-1.13)	(-1.41)	(-0.92)	(-1.17)
FIRM_SIZE	-	-0.002	-0.002	-0.002	-0.003**	-0.003**	-0.003*	-0.003**
		(-1.57)	(-1.55)	(-1.50)	(-2.18)	(-2.16)	(-1.85)	(-2.22)
LEV	+	-0.002	-0.002	-0.003	0.001	0.000	-0.003	0.003
		(-0.14)	(-0.15)	(-0.22)	(0.10)	(0.04)	(-0.25)	(0.26)
GROWTH_A	+	0.067***	0.067***	0.067***	0.068***	0.068***	0.068***	0.068***
		(5.58)	(5.56)	(5.57)	(5.67)	(5.69)	(5.66)	(5.66)
ROA	-	-0.143***	-0.142***	-0.142***	-0.146***	-0.146***	-0.148***	-0.142***
		(-2.70)	(-2.67)	(-2.67)	(-2.81)	(-2.83)	(-2.86)	(-2.71)
OCF	-	0.083***	0.083***	0.082***	0.084***	0.082***	0.083***	0.083***
		(3.45)	(3.45)	(3.43)	(3.53)	(3.48)	(3.49)	(3.53)
Constant		0.158***	0.168***	0.165***	0.171***	0.166***	0.159***	0.173***
		(7.11)	(7.25)	(7.23)	(7.58)	(7.33)	(6.98)	(7.65)
N		3636	3636	3636	3696	3686	3692	3710
Adjusted R2		0.117	0.118	0.118	0.118	0.117	0.117	0.118
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. NED is the proportion of non-executive directors on the board. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

4.5 Discussion

The insignificant results of IND and the interaction term IND*REFORM are consistent across three different regression models and various robustness tests, implying that independent directors do not help to reduce earnings management among Vietnamese listed firms. There are four possible explanations for this finding.

4.5.1 Limitations of Vietnamese regulation

The first explanation concerns the limitations of Vietnamese regulations in general and of Circular 121 in particular. With a short period of establishment, the Vietnamese stock market has been expanded rapidly, while legitimate regulations are not strong enough to monitor the market. The big gap between legal regulations and their implementation adds difficulties in establishing a strong corporate governance framework. According to McGee (2009), corporate governance laws and regulations in Vietnam are often incomplete and have many conflicts as well as inconsistencies. This is likely to be true in the case of Circular 121. Although clearly defining the term "independent director", the Circular does not provide specific guidance on the duties of independent directors. Circular 121 only states the general responsibilities of all board members. Therefore, it is possible that independent directors may not understand what they should or should not do, how their role is different from other board members, and what could be challenging for them when participating in the board of directors (Nguyen et al., 2019).

Besides, weak enforcement with no sanctions for firms that fail to follow corporate governance rules often renders established laws and regulations ineffective. In recent years, although the Vietnamese Government has made many efforts to improve corporate governance, violations are still complicated, and appointing independent directors is mainly at firms' discretion (Tran, 2020). Therefore, it is no surprise that legal regulations on board independence fail to be enforceable and effective.

Weak enforcement is perhaps a common characteristic of many emerging markets where corporate governance rules are largely learned from advanced economies. According to Pistor et al. (2002), legal transplantation is not an easy (and certainly not a short-term) solution for countries with less developed legal systems. Countries that adopt foreign law are often underprepared for it or the changes it brings. Thus, Vietnam needs to strengthen its corporate governance framework so that regulatory reform can fully discharge its effectiveness. Eventually, the strategy for reform is *"not to create an ideal set of rules and then see how well they can be enforced, but rather to enact the rules that can be enforced within the existing structure"* (La Porta et al., 2000; p.22).

4.5.2 Underdeveloped market for independent directors

Before 2012, the terms "independent director" and "non-executive director" were used interchangeably. Therefore, an "independent director" that satisfied many other criteria besides being non-executive as outlined in Circular 121 was a new concept. Conducting a survey based on 170 independent directors from listed companies in Vietnam, Nguyen et al. (2019) report that 48% of the respondents are in their 30s, 66% have less than three years' experience sitting on the board of any company, and 69% have a bachelor's degree.

The relatively young age and limited experience of the participants in the survey reflect that independent directors are a recent addition to board and most of them lack experience in performing this new role. Since the term "independent directors" was only introduced in 2012, most of the directors do not have extensive experience in that capacity and they may have been recruited just to fulfill legal requirements. Additionally, the Circular does not require or recommend certain qualifications of independent directors. Therefore, it could be the case that Vietnamese independent directors meet the independence criteria but do not have sufficient capabilities to perform their roles.

The case of China is also illustrative of a pre-mature market for independent directors. Studying the effectiveness of independent directors in China, Lai (2011) also found the relationship between earnings management and board independence to be insignificant when the adoption of independent directors is made mandatory. This finding suggests that the regulatory requirement on quantity might bring about a gap in quality.

On the demand side, as appointing a qualified independent director would bring costs and take time, firms may choose to reduce these costs by searching for candidates who might be close ties of the company (Meng et al., 2018). In this case, setting a numerical target for outside directors may be merely window-dressing. For example, a CEO can select directors who are independent as per legal requirements but are actually his or her close friends. Although there is no rigorous methodology to examine the validity of this hypothesis, this seems to be likely in Vietnam. In the Vietnamese trust-based culture, it takes time to transform independent directors' general expertise to the needs of the firm and to coordinate them with the current management team (Nguyen, 2019). Eventually, social ties could be an influencing factor that impacts the decision to appoint independent directors.

4.5.3 Independent directors prefer the advisory role

It should also be noted that independent directors in Vietnam place more emphasis on their advisory role than monitoring role. According to Nguyen et al., (2019), for Vietnamese independent directors, contributing to the development of corporate strategy is more important than providing an independent check on corporate control. This finding is different from extant literature on board independence which posits that the primary responsibility of directors is to monitor managers (Bhagat & Bolton, 2008). However, it may reflect the distinctive situation of many transitional economies where there are various barriers for independent directors to discharge their monitoring function. Factors such as high State ownership, the dominance of large shareholders, weak investor protection, and lack of experience and capability may undermine the monitoring role of independent directors (Cheung et al., 2008).

These circumstances are also relevant to Vietnam. High ownership concentration, high State ownership, and CEO duality are common in listed Vietnamese companies. In my study, 56.6% of observations have ownership concentration of at least 50%, the State has at least 50% of ownership in 29% of observations, and 33.2% of observations have CEO duality. The State commonly appoints representatives to the board and one of them is usually the Chairman. As a result, independent directors may prefer to undertake an advisory role to avoid possible conflicts with management and controlling shareholders. This may be

particularly true in a business environment under a collectivist culture such as that of Vietnam where individual relationships are important and people tend to avoid conflicts with their business partners (Vuong et al., 2013). This finding may explain why Vietnamese independent directors prefer to execute their advisory function over their monitoring function.

4.5.4 Information asymmetry and high information costs

Although independent directors generally have a better overview of the industry, they often have a less specific understanding of the day-to-day business compared to inside directors (Uribe-Bohorquez et al., 2018; Weisbach, 1988). Independent directors are outsiders, and they have limited access to information. Only when the CEO or insiders are willing to share information with them can they undertake their roles effectively. Hooghiemstra & van Manen (2004) propose the "independence paradox" in which independent directors need to monitor management independently, but have to rely on the information provided by management. This is also a challenge for Vietnamese independent directors who cited that they often lack information and executive directors holding back information (Nguyen, 2019).

The relatively low level of disclosure and transparency in the Vietnamese investment environment is also associated with increasing information acquisition costs which prevent independent directors from performing an effective monitoring role (Duchin et al., 2010). Studying Chinese listed firms, Meng et al. (2018) find that independent directors have a significantly negative impact on firm performance as measured by ROA and EPS, and this negative effect is more pronounced under the presence of high information costs. Similarly, using a sample of U.S. firms, Duchin et al. (2010) report that adding outside directors to the board worsens performance when the cost of information is high. The finding suggests that some firms keep the number of outside directors low for optimal reasons, and the one-size-fits-all approach of the new board regulations may not be ideal. In turn, the time and effort needed to obtain information in firms with high information costs might shy highly reputed directors away.

CHAPTER 5: CONCLUSION

5.1 Summary

This study examines the effectiveness of corporate governance reform in Vietnam via the issuance of Circular 121 in 2012. It stipulates that listed firms must include at least one-third of independent directors on the board. Circular 121 is expected to curtail the earnings management problem among listed firms by increasing the board independence. Based on the sample of 523 non-financial listed firms from 2009 – 2016, this study does not find a significant relationship between board independence and absolute discretionary accruals among Vietnamese listed firms. This relationship remains insignificant under the presence of Circular 121. These results are consistent across three regression models (i.e. FEM, REM, and OLS) and various robustness tests. Therefore, the two hypotheses of this study are rejected, meaning that having a higher percentage of independent directors on the board does not help to reduce earnings management and corporate governance reform does not improve the situation. This finding may reflect unique characteristics of the Vietnamese capital market which is young and transitional.

The formerly centralized and planned economy is still anchored in business practices which may disrupt the market conditions. The formerly commanded economy management styles such as manipulations, information asymmetry, advocacy groups, and State interventions still influence heavily on Vietnamese economy (Nguyen, 2014). Therefore, governance practices still need time to adapt to economic changes. These notions are reflected in the results of my study. Not only board independence but also the majority of other corporate governance variables such as the presence of women directors and ownership structure have no significant impact on controlling the opportunistic behavior of managers.

Another distinctive feature of the Vietnamese market is a flawed regulatory system. According to McGee (2009) weak corporate governance in Vietnam is due to the following reasons: (i) Laws and regulations have many conflicts and inconsistencies; (ii) There are no sanctions for firms that fail to follow corporate governance rules; and (iii) Investment environment lacks information disclosure and transparency. Under these circumstances, independent directors, especially those who do not have extensive experience, face various barriers to effectively undertake their roles.

5.2 Implications

My study contributes to the body of research examining the effect of corporate governance reform in developing countries. The insignificant result of board independence indicates that simply adding more independent directors does not help to improve earnings reporting in Vietnam. This finding is contrasting to the mainstream literature of advanced economies. However, it may be more consistent with several unique characteristics of the Vietnamese transitional economy. The Vietnamese economy has several unique governance issues not prevalent in most of the developed markets. Particularly, in the case of a post-war economy transitioning towards a market economy, the private sector is relatively young, and "private firms require managerial competencies that did not exist before under the centralized and

planned economy" (Vu et al., 2018, p.513). Consequently, my study provides practical implications that cannot be drawn from studies in advanced countries. To my knowledge, this study is the first to examine the impact of corporate governance reform in constraining earnings management. My study employs data collected from a large sample of all non-financial listed company in Vietnam and thus, have relatively high generalizability. The results are also robust as variables are measured by different proxies.

Beside theoretical insights, my study also provides several implications for policy-makers. The most important implication is that Vietnamese authorities need to further strengthen the regulatory and enforcement framework as corporate governance reform does not automatically become effective. Countries that adopt foreign law are often underprepared for it or the changes it brings (Pistor, 2003). Under a flawed system, it is not surprising that not only board independence but also all the other corporate governance variables are ineffective monitoring mechanisms. The new regulation is not well incorporated into the institutional landscape and could not contribute to an institutional change.

Additionally, regulation should be accompanied with detailed guidelines and frequent training to guide businesses and stakeholders in the process of change. Policy-makers may consider requiring certain qualities of independent directors such as experience, expertise, and qualifications. Market players should also pay attention to develop a corresponding market of independent directors to minimize a gap in quality when imposing a quantitative target on board independence.

5.3 Limitation and suggestions for further research

The first limitation of my study is the inability to collect data of independent directors that fully qualify the definition of Circular 121. As most companies do not provide information on large business partners, I could not check if independent directors are related to large suppliers or customers of the firms. In many cases, the professional background of directors is not disclosed so I could not check if independent directors have worked for an external auditor or legal advisor during the past 2 years. Consequently, the definition of "independent director" in my study only satisfies 3 out of 5 criteria as mandated by Circular 121. Further study may choose a smaller sample and examine other different types of public documents such as financial statements, company prospectus, and resumes of directors to determine the exact relations of these directors to the firms.

Second, due to the limitation of my dataset, explanations for the absence of a significant association between board independence and earnings management in the post-reform period is on a conjecture basis. Therefore, future research could search for additional data that take into account other characteristics of independent directors (i.e. tenure duration, age, qualifications, concurrent positions held at other companies) or the costs of information acquisition. Employing more variables relevant to the regression model can also reduce the omitted variables bias, a situation not uncommon in earnings management study (Dechow et al., 2012).

Third, the model in my study is infected with autocorrelation which may generate biased and inconsistent estimates of parameters. Although robust standard errors were applied as a remedy, the results of my study should be treated with conservatism. Further research on this topic in Vietnam may use other methods to measure earnings management and other independent variables.

Besides, future studies may investigate the effectiveness of Decree 71/2017/ND-CP established in 2017 and compare it with Circular 121. Decree 71 replaced Circular 121 and a stricter requirement for independent directors: they must not hold more than 1% of the shares in the company (compared to 5% as mandated by Circular 121). Besides this rule, Decree 71 also stipulates that from Aug 1st, 2020, the CEO of a listed company is not allowed to concurrently hold the position of the Board Chairman. Therefore, Decree 71 may be more effective than Circular 121 in curtailing earnings management.

APPENDICES

Appendix 1: Mean absolute discretionary accruals and mean board independence by industry

Industry	Firms	Firms (%)	Mean IND	Mean AbsDA
Manufacturing	189	36.1%	0.39	0.11
Construction	88	16.8%	0.40	0.11
Wholesale and retail trade	65	12.4%	0.40	0.12
General storage	43	8.2%	0.44	0.11
Utilities	32	6.1%	0.39	0.08
Real estate	28	5.4%	0.45	0.13
Transportation	27	5.2%	0.46	0.12
Mining	26	5.0%	0.46	0.10
Information and communication	25	4.8%	0.42	0.11
Total	**3774**	**100.0%**	**0.41**	**0.12**

Appendix 2: VIFs of main variables in the main model and alternative model

Variable	VIF	1/VIF	Variable	VIF	1/VIF
FIRM_SIZE	1.72	0.580	FIRM_SIZE	1.79	0.557
ROA	1.65	0.607	**OWN_STATE_2**	1.47	0.680
OCF	1.61	0.620	BIG4	1.37	0.728
LEV	1.58	0.634	**OWN_CON_D**	1.37	0.732
OWN_STATE	1.51	0.663	**LEV_LOAN**	1.31	0.760
OWN_CON	1.42	0.703	OWN_FOR	1.24	0.805
BIG4	1.37	0.730	**OCF_A**	1.18	0.848
OWN_FOR	1.29	0.776	BOARD_SIZE	1.17	0.851
OWN_MNG	1.21	0.827	**ROE**	1.17	0.853
BOARD_SIZE	1.18	0.850	OWN_MNG	1.16	0.862
GROWTH_A	1.17	0.852	DUAL	1.14	0.875
IND	1.16	0.863	IND	1.13	0.882
DUAL	1.15	0.871	POST121	1.13	0.882
REFORM	1.13	0.884	WOMEN	1.06	0.945
WOMEN	1.06	0.939	**GROWTH_S**	1.01	0.994
Mean VIF	1.35		Mean VIF	1.25	

Appendix 3: Descriptive statistics

Panel A: Full period (2009 – 2016)

Variable	N	Mean	S.D.	Min	0.25	Median	0.75	Max
				Full period (2009 – 2016)				
AbsDA	3763	0.112	0.113	0.002	0.035	0.080	0.148	0.627
Positive_DA	1778	0.114	0.118	0.000	0.032	0.078	0.151	0.551
Negative_DA	1985	-0.106	0.094	-0.422	-0.146	-0.081	-0.038	0.000
NED	3764	0.595	0.194	0.000	0.400	0.600	0.800	1.000
IND	3746	0.410	0.222	0.000	0.200	0.400	0.600	1.000
IND_D	3746	0.941	0.236	0.000	1.000	1.000	1.000	1.000
BOARD_SIZE	3774	5.474	1.135	3.000	5.000	5.000	6.000	11.000
DUAL	3770	0.332	0.471	0.000	0.000	0.000	1.000	1.000
WOMEN	3770	0.483	0.500	0.000	0.000	0.000	1.000	1.000
OWN_CON	3733	0.486	0.210	0.000	0.350	0.510	0.628	0.980
OWN_CON_D	3733	0.570	0.490	0.000	0.000	0.000	1.000	1.000
OWN_MNG	3722	0.087	0.122	0.000	0.005	0.028	0.125	0.650
OWN_FOR	3731	0.068	0.118	0.000	0.000	0.010	0.084	0.800
OWN_STATE	3749	0.231	0.248	0.000	0.000	0.133	0.510	0.967
OWN_STATE_2	3749	0.115	0.152	0.000	0.000	0.020	0.260	0.935
BIG4	3746	0.215	0.411	0.000	0.000	0.000	0.000	1.000
FIRM_SIZE (€ mil.)	3774	68.685	231.33	0.434	7.322	18.770	52.796	6,683
LEV	3774	0.499	0.219	0.014	0.324	0.525	0.673	0.967
LEV_LOAN	3774	0.227	0.191	0.000	0.044	0.204	0.367	0.758
GROWTH_A	3773	0.231	5.035	-0.599	-0.021	0.078	0.216	4.600
GROWTH_S	3771	0.511	10.289	-0.990	-0.057	0.094	0.264	59.268
ROA	3774	0.066	0.085	-0.472	0.020	0.051	0.098	0.588
ROE	3774	0.124	0.263	-2.401	0.052	0.123	0.195	0.863
OCF	3763	0.132	0.209	-0.709	0.023	0.110	0.216	1.831
OCF_A	3763	0.150	0.202	-0.662	0.039	0.130	0.237	1.488

AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm.

Panel B: Pre-reform (2009 – 2012)

Variable	N	Mean	S.D.	Min	0.25	Median	0.75	Max
				Pre-reform (2009 – 2012)				
AbsDA	1694	-0.002	0.151	-0.422	-0.086	-0.003	0.070	0.551
Positive_DA	828	0.110	0.113	0.001	0.031	0.074	0.147	0.551
Negative_DA	866	-0.109	0.096	-0.422	-0.150	-0.082	-0.039	-0.001
NED	1695	0.564	0.195	0.000	0.400	0.600	0.714	1.000
IND	1678	0.373	0.220	0.000	0.200	0.400	0.556	1.000
IND_D	1678	0.908	0.290	0.000	1.000	1.000	1.000	1.000
BOARD_SIZE	1705	5.450	1.164	0.000	5.000	5.000	6.000	11.000
DUAL	1701	0.406	0.491	0.000	0.000	0.000	1.000	1.000
WOMEN	1701	0.426	0.495	0.000	0.000	0.000	1.000	1.000
OWN_CON	1666	0.469	0.205	0.000	0.339	0.510	0.608	0.910
OWN_CON_D	1666	0.548	0.498	0.000	0.000	1.000	1.000	1.000
OWN_MNG	1656	0.074	0.119	0.000	0.003	0.020	0.089	0.625
OWN_FOR	1670	0.055	0.111	0.000	0.000	0.003	0.060	0.800
OWN_STATE	1683	0.273	0.245	0.000	0.000	0.260	0.510	0.872
OWN_STATE_2	1683	0.134	0.135	0.154	0.000	0.068	0.260	0.935
BIG4	1677	0.185	0.389	0.000	0.000	0.000	0.000	1.000
FIRM_SIZE (€ mil.)	1705	54.370	143.636	0.434	2067.588	6.782	16.663	43.333
LEV	1705	0.508	0.214	0.036	0.333	0.541	0.673	0.948
LEV_LOAN	1705	0.233	0.194	0.000	0.045	0.215	0.377	0.747
GROWTH_A	1704	0.350	7.475	-0.413	-0.009	0.110	0.259	3.104
GROWTH_S	1704	0.395	4.537	-0.920	-0.039	0.135	0.322	23.140
ROA	1705	0.075	0.084	-0.194	0.024	0.057	0.108	0.547
ROE	1705	0.151	0.145	-0.505	0.067	0.142	0.221	0.764
OCF	1694	0.142	0.213	-0.591	0.022	0.118	0.236	1.078
OCF_A	1694	0.182	0.212	-0.395	0.058	0.153	0.282	1.188

AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm.

Panel C: Post-reform (2013 – 2016)

Variable	N	Mean	S.D.	Min	0.25	Median	0.75	Max
				Post-reform (2013 – 2016)				
AbsDA	2069	-0.002	0.154	-0.422	-0.087	-0.011	0.069	0.551
Positive_DA	1119	-0.104	0.092	-0.422	-0.143	-0.080	-0.037	-0.001
Negative_DA	950	0.117	0.122	0.001	0.033	0.080	0.158	0.551
NED	2069	0.620	0.189	0.000	0.500	0.600	0.800	1.000
IND	2068	0.441	0.220	0.000	0.211	0.400	0.600	1.000
IND_D	2068	0.968	0.176	0.000	1.000	1.000	1.000	1.000
BOARD_SIZE	2069	5.493	1.109	3.000	5.000	5.000	6.000	11.000
DUAL	2069	0.272	0.445	0.000	0.000	0.000	1.000	1.000
WOMEN	2069	0.530	0.499	0.000	0.000	1.000	1.000	1.000
OWN_CON	2067	0.500	0.212	0.000	0.360	0.519	0.650	0.980
OWN_CON_D	2067	0.591	0.492	0.000	0.000	1.000	1.000	1.000
OWN_MNG	2066	0.097	0.123	0.000	0.007	0.040	0.154	0.650
OWN_FOR	2061	0.078	0.123	0.000	0.000	0.019	0.103	0.779
OWN_STATE	2066	0.196	0.245	0.000	0.000	0.000	0.466	0.958
OWN_STATE_2	2066	0.099	0.150	0.000	0.000	0.000	0.218	0.935
BIG4	2069	0.240	0.427	0.000	0.000	0.000	0.000	1.000
FIRM_SIZE (€ mil.)	2069	80.483	283.42	0.502	7.862	20.265	61.799	6683.4
LEV	2069	0.492	0.223	0.014	0.316	0.512	0.673	0.967
LEV_LOAN	2069	0.222	0.188	0.000	0.044	0.194	0.356	0.736
GROWTH_A	2069	0.132	0.458	-0.547	-0.033	0.053	0.180	3.749
GROWTH_S	2067	0.607	13.273	-0.990	-0.072	0.071	0.207	29.556
ROA	2069	0.059	0.084	-0.365	0.016	0.046	0.090	0.552
ROE	2069	0.102	0.328	-2.401	0.044	0.108	0.177	0.711
OCF	2069	0.124	0.205	-0.591	0.025	0.104	0.204	1.398
OCF_A	2069	0.123	0.191	-0.601	0.026	0.112	0.202	1.175

AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm.

Appendix 4: Regression results of the main model using FEM

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND	-	-0.001	-0.008	-0.008	-0.007	-0.008	-0.010	-0.011
		(-0.10)	(-0.48)	(-0.44)	(-0.43)	(-0.48)	(-0.60)	(-0.67)
REFORM	-		-0.003	-0.002	-0.002	-0.004	-0.005	-0.006
			(-0.38)	(-0.26)	(-0.23)	(-0.51)	(-0.60)	(-0.71)
IND*REFORM	-		0.012	0.012	0.012	0.014	0.015	0.014
			(0.70)	(0.67)	(0.69)	(0.84)	(0.89)	(0.85)
BOARD_SIZE	?	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
		(-0.85)	(-0.86)	(-0.89)	(-0.96)	(-0.96)	(-0.85)	(-0.80)
DUAL	+	0	0.001		0	0	-0	0
		(0.04)	(0.07)		(0.02)	(0.07)	(-0.01)	(0.05)
WOMEN	-	0.013**	0.013**		0.014**	0.014**	0.014**	0.013**
		(2.01)	(1.98)		(2.10)	(2.15)	(2.06)	(2.04)
OWN_CON	-	-0.035*	-0.035*	-0.035*	-0.036*			
		(-1.71)	(-1.74)	(-1.72)	(-1.80)			
OWN_MNG	?	-0.003	-0.002	-0.003		-0.003		
		(-0.13)	(-0.11)	(-0.12)		(-0.15)		
OWN_FOR	-	-0.008	-0.009	-0.010			-0.012	
		(-0.35)	(-0.37)	(-0.40)			(-0.49)	
OWN_STATE	+	-0.021	-0.020	-0.022				-0.026*
		(-1.38)	(-1.29)	(-1.40)				(-1.66)
BIG4	-	-0.007	-0.007	-0.006	-0.006	-0.009	-0.005	-0.007
		(-0.67)	(-0.69)	(-0.64)	(-0.60)	(-0.92)	(-0.49)	(-0.70)
FIRM_SIZE	-	-0.001	-0.002	-0.001	-0.001	-0.002	-0	-0.002
		(-0.07)	(-0.21)	(-0.11)	(-0.11)	(-0.21)	(-0.04)	(-0.22)
LEV	+	0.026	0.028	0.026	0.028	0.028	0.026	0.031
		(0.86)	(0.92)	(0.86)	(0.92)	(0.93)	(0.86)	(1.02)
GROWTH_A	+	0.071***	0.071***	0.071***	0.071***	0.071***	0.071***	0.071***
		(5.91)	(5.85)	(5.87)	(5.92)	(5.91)	(5.88)	(5.93)
ROA	-	-0.140**	-0.139**	-0.141**	-0.142**	-0.141**	-0.148***	-0.144**
		(-2.47)	(-2.42)	(-2.45)	(-2.48)	(-2.49)	(-2.60)	(-2.54)
OCF	-	0.071***	0.071***	0.071***	0.072***	0.072***	0.071***	0.071***
		(3.02)	(3.03)	(3.01)	(3.08)	(3.09)	(3.02)	(3.06)
Constant		0.131	0.148	0.144	0.131	0.126	0.108	0.131
		(1.38)	(1.43)	(1.38)	(1.29)	(1.22)	(1.05)	(1.26)
N		3624	3624	3624	3682	3674	3677	3694
R-square within		0.101	0.102	0.100	0.100	0.100	0.100	0.101

t-statistics in parentheses. The regression approach is FEM with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 5: Regression results of the main model using REM

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND	-	-0.003	-0.012	-0.012	-0.010	-0.009	-0.010	-0.014
		(-0.29)	(-0.85)	(-0.84)	(-0.75)	(-0.66)	(-0.75)	(-1.04)
REFORM	-		-0.005	-0.003	-0.003	-0.004	-0.004	-0.006
			(-0.62)	(-0.46)	(-0.40)	(-0.60)	(-0.57)	(-0.82)
IND*REFORM	-		0.015	0.014	0.015	0.016	0.017	0.017
			(0.91)	(0.87)	(0.92)	(1.01)	(1.04)	(1.08)
BOARD_SIZE	?	-0.004*	-0.004*	-0.004*	-0.004*	-0.004*	-0.003	-0.004*
		(-1.87)	(-1.88)	(-1.85)	(-1.86)	(-1.76)	(-1.60)	(-1.91)
DUAL	+	-0.004	-0.004		-0.003	-0.002	-0.002	-0.003
		(-0.78)	(-0.76)		(-0.65)	(-0.40)	(-0.55)	(-0.72)
WOMEN	-	0.006	0.006		0.007*	0.007*	0.008*	0.006
		(1.38)	(1.36)		(1.68)	(1.76)	(1.82)	(1.43)
OWN_CON	-	-0.006	-0.007	-0.006	-0.017			
		(-0.54)	(-0.60)	(-0.49)	(-1.56)			
OWN_MNG	?	-0.003	-0.002	-0.005		0.001		
		(-0.17)	(-0.12)	(-0.30)		(0.06)		
OWN_FOR	-	-0.025	-0.025	-0.025			-0.021	
		(-1.51)	(-1.50)	(-1.48)			(-1.34)	
OWN_STATE	+	-0.023**	-0.022**	-0.024**				-0.023**
		(-2.35)	(-2.24)	(-2.42)				(-2.49)
BIG4	-	-0.005	-0.005	-0.005	-0.006	-0.008	-0.006	-0.006
		(-0.95)	(-0.92)	(-0.96)	(-1.12)	(-1.44)	(-1.07)	(-1.21)
FIRM_SIZE	-	-0.002	-0.002	-0.002	-0.002	-0.003	-0.002	-0.003
		(-0.96)	(-1.01)	(-0.93)	(-1.33)	(-1.37)	(-1.20)	(-1.49)
LEV	+	0.002	0.002	0	0.003	0.002	-0	0.006
		(0.12)	(0.14)	(0.03)	(0.19)	(0.18)	(-0.01)	(0.42)
GROWTH_A	+	0.070***	0.070***	0.070***	0.072***	0.072***	0.072***	0.071***
		(5.96)	(5.93)	(5.95)	(6.02)	(6.05)	(6.02)	(6.03)
ROA	-	-0.132**	-0.131**	-0.131**	-0.135**	-0.137**	-0.142***	-0.131**
		(-2.41)	(-2.35)	(-2.36)	(-2.48)	(-2.53)	(-2.61)	(-2.40)
OCF	-	0.080***	0.080***	0.080***	0.080***	0.080***	0.080***	0.080***
		(3.37)	(3.36)	(3.34)	(3.42)	(3.40)	(3.40)	(3.40)
Constant		0.155***	0.159***	0.158***	0.162***	0.153***	0.149***	0.163***
		(6.69)	(6.73)	(6.70)	(6.85)	(6.52)	(6.38)	(6.98)
N		3624	3624	3624	3682	3674	3677	3694
R-square within		0.099	0.099	0.098	0.099	0.098	0.099	0.099

t-statistics in parentheses. The regression approach is REM with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 6: Regression results using the propensity of independent directors (IND_D) as an alternative measurement of board independence

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND_D	-	-0.008	-0.009	-0.008	-0.008	-0.008	-0.009	-0.010
		(-1.11)	(-0.96)	(-0.88)	(-0.93)	(-0.87)	(-0.99)	(-1.12)
REFORM	-		-0.008	-0.006	-0.003	-0.004	-0.005	-0.007
			(-0.44)	(-0.33)	(-0.20)	(-0.25)	(-0.27)	(-0.42)
IND_D*REFORM	-		0.002	0.001	0.001	0.001	0.003	0.002
			(0.11)	(0.07)	(0.06)	(0.06)	(0.23)	(0.16)
BOARD_SIZE	?	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.003*	-0.004**
		(-2.23)	(-2.23)	(-2.19)	(-2.30)	(-2.19)	(-1.91)	(-2.35)
DUAL	+	-0.004	-0.004		-0.004	-0.003	-0.004	-0.004
		(-0.92)	(-0.93)		(-0.98)	(-0.65)	(-1.00)	(-1.01)
WOMEN	-	0.004	0.004		0.004	0.005	0.005	0.004
		(1.15)	(1.15)		(1.23)	(1.33)	(1.46)	(1.18)
OWN_CON	-	0.000	0.000	0.002	-0.009			
		(0.01)	(0.01)	(0.15)	(-0.94)			
OWN_MNG	?	-0.011	-0.011	-0.014		-0.008		
		(-0.66)	(-0.65)	(-0.91)		(-0.51)		
OWN_FOR	-	-0.034**	-0.034**	-0.034**			-0.030**	
		(-2.09)	(-2.09)	(-2.09)			(-1.98)	
OWN_STATE	+	-0.015*	-0.015*	-0.016*				-0.012
		(-1.68)	(-1.68)	(-1.79)				(-1.52)
BIG4	-	-0.004	-0.004	-0.004	-0.005	-0.006	-0.004	-0.005
		(-0.80)	(-0.79)	(-0.83)	(-1.09)	(-1.35)	(-0.86)	(-1.15)
FIRM_SIZE	-	-0.002	-0.002	-0.002	-0.003**	-0.003**	-0.003*	-0.003**
		(-1.49)	(-1.49)	(-1.43)	(-2.13)	(-2.07)	(-1.78)	(-2.20)
LEV	+	-0.003	-0.003	-0.004	-0.001	-0.002	-0.005	0.001
		(-0.27)	(-0.27)	(-0.36)	(-0.11)	(-0.13)	(-0.43)	(0.10)
GROWTH_A	+	0.067***	0.067***	0.067***	0.068***	0.069***	0.068***	0.068***
		(5.59)	(5.59)	(5.60)	(5.71)	(5.71)	(5.69)	(5.69)
ROA	-	-0.141***	-0.141***	-0.141***	-0.143***	-0.145***	-0.147***	-0.139***
		(-2.62)	(-2.62)	(-2.62)	(-2.73)	(-2.79)	(-2.81)	(-2.62)
OCF	-	0.082***	0.082***	0.082***	0.082***	0.082***	0.082***	0.082***
		(3.41)	(3.41)	(3.39)	(3.44)	(3.44)	(3.45)	(3.44)
Constant		0.167***	0.168***	0.165***	0.173***	0.168***	0.162***	0.175***
		(7.35)	(7.22)	(7.15)	(7.62)	(7.38)	(7.09)	(7.78)
N		3624.000	3624.000	3624.000	3682.000	3674.000	3677.000	3694.000
Adjusted R2		0.118	0.117	0.117	0.117	0.117	0.117	0.117
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND_D is a dummy variable that takes the value 0 if there is no independent director on the board, and 1 otherwise. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 7: Regression results using alternative measurement of control variables

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND	-	0.003	-0.005	-0.004	-0.004	-0.002	-0.002	-0.007
		(0.39)	(-0.35)	(-0.33)	(-0.30)	(-0.17)	(-0.14)	(-0.55)
REFORM	-		-0.013	-0.010	-0.012	-0.012	-0.010	-0.015
			(-1.05)	(-0.85)	(-1.03)	(-1.02)	(-0.90)	(-1.34)
IND*REFORM	-		0.014	0.013	0.016	0.015	0.017	0.018
			(0.84)	(0.77)	(1.00)	(0.89)	(1.01)	(1.13)
BOARD_SIZE	?	-0.005***	-0.005***	-0.005***	-0.006***	-0.005***	-0.004**	-0.006***
		(-2.98)	(-3.00)	(-2.94)	(-3.21)	(-2.95)	(-2.57)	(-3.21)
DUAL	+	-0.005	-0.006		-0.006	-0.004	-0.005	-0.006
		(-1.32)	(-1.37)		(-1.53)	(-0.94)	(-1.39)	(-1.54)
WOMEN	-	0.004	0.004		0.004	0.005	0.006	0.004
		(1.16)	(1.15)		(1.17)	(1.35)	(1.55)	(1.09)
OWN_CON_D	-	-0.004	-0.004	-0.004	-0.008**			
		(-0.88)	(-0.91)	(-0.79)	(-2.02)			
OWN_MNG	?	-0.017	-0.015	-0.021		-0.014		
		(-1.00)	(-0.89)	(-1.29)		(-0.85)		
OWN_FOR	-	-0.047***	-0.046***	-0.046***			-0.042***	
		(-2.77)	(-2.75)	(-2.73)			(-2.60)	
OWN_STATE_2	+	-0.028*	-0.028*	-0.028*				-0.026**
		(-1.85)	(-1.85)	(-1.90)				(-2.02)
BIG4	-	-0.009*	-0.009*	-0.009*	-0.011**	-0.012**	-0.010*	-0.012**
		(-1.76)	(-1.73)	(-1.74)	(-2.17)	(-2.47)	(-1.92)	(-2.32)
FIRM_SIZE	-	0.002	0.002	0.002	0.000	0.000	0.001	0.000
		(1.00)	(0.98)	(1.05)	(0.21)	(0.17)	(0.44)	(0.29)
LEV_LOAN	+	-0.008	-0.008	-0.009	-0.004	-0.004	-0.007	-0.004
		(-0.64)	(-0.64)	(-0.73)	(-0.32)	(-0.35)	(-0.62)	(-0.37)
GROWTH_S	+	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
		(-0.49)	(-0.49)	(-0.55)	(-0.04)	(-0.27)	(-0.31)	(-0.28)
ROE	-	-0.043***	-0.043***	-0.043***	-0.044***	-0.045***	-0.045***	-0.044***
		(-2.95)	(-2.95)	(-2.92)	(-3.00)	(-3.02)	(-3.00)	(-3.04)
OCF_A	-	0.131***	0.131***	0.130***	0.131***	0.131***	0.130***	0.130***
		(7.30)	(7.30)	(7.28)	(7.38)	(7.36)	(7.32)	(7.38)
Constant		0.115***	0.119***	0.115***	0.130***	0.125***	0.115***	0.130***
		(5.11)	(5.18)	(5.02)	(5.85)	(5.60)	(5.09)	(5.91)
N		3622.000	3622.000	3622.000	3680.000	3672.000	3675.000	3692.000
Adjusted R2		0.073	0.073	0.073	0.071	0.071	0.072	0.072
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 8: Regression results when removing 2012

	Exp. sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
IND	-	-0.002	-0.005	-0.005	-0.005	-0.004	-0.005	-0.009
		(-0.22)	(-0.31)	(-0.30)	(-0.30)	(-0.26)	(-0.35)	(-0.59)
REFORM	-		0.009	0.010	0.013	0.011	0.014	0.010
			(0.70)	(0.78)	(1.01)	(0.84)	(1.08)	(0.81)
IND*REFORM	-		0.004	0.004	0.004	0.005	0.006	0.007
			(0.21)	(0.18)	(0.20)	(0.26)	(0.29)	(0.37)
BOARD_SIZE	-	-0.003*	-0.003*	-0.003*	-0.003	-0.003	-0.003	-0.003*
		(-1.68)	(-1.69)	(-1.67)	(-1.64)	(-1.55)	(-1.36)	(-1.68)
DUAL	+	-0.003	-0.003		-0.002	-0.002	-0.003	-0.002
		(-0.59)	(-0.60)		(-0.47)	(-0.44)	(-0.60)	(-0.51)
WOMEN	-	0.003	0.003		0.004	0.004	0.004	0.004
		(0.72)	(0.72)		(0.88)	(0.90)	(0.97)	(0.83)
OWN_CON	-	0.006	0.006	0.007	-0.004			
		(0.47)	(0.46)	(0.55)	(-0.32)			
OWN_MNG	?	-0.002	-0.001	-0.004		0.005		
		(-0.07)	(-0.05)	(-0.20)		(0.23)		
OWN_FOR	-	-0.039**	-0.039**	-0.039**			-0.037**	
		(-2.04)	(-2.03)	(-2.03)			(-1.99)	
OWN_STATE	+	-0.017	-0.017	-0.017				-0.012
		(-1.48)	(-1.48)	(-1.57)				(-1.21)
BIG4	-	-0.005	-0.005	-0.005	-0.006	-0.007	-0.005	-0.006
		(-0.82)	(-0.81)	(-0.83)	(-1.05)	(-1.25)	(-0.81)	(-1.02)
FIRM_SIZE	-	-0.001	-0.001	-0.001	-0.002	-0.002	-0.001	-0.002
		(-0.49)	(-0.50)	(-0.45)	(-1.16)	(-1.05)	(-0.76)	(-1.19)
LEV	+	0.003	0.003	0.002	0.007	0.006	0.002	0.009
		(0.19)	(0.19)	(0.13)	(0.44)	(0.44)	(0.12)	(0.63)
GROWTH_A	+	0.063***	0.063***	0.063***	0.065***	0.065***	0.064***	0.064***
		(5.19)	(5.19)	(5.20)	(5.31)	(5.32)	(5.27)	(5.29)
ROA	-	-0.092	-0.092	-0.092	-0.093	-0.093	-0.097	-0.088
		(-1.34)	(-1.33)	(-1.33)	(-1.40)	(-1.39)	(-1.45)	(-1.30)
OCF	-	0.056*	0.056*	0.056*	0.056*	0.056*	0.057**	0.055*
		(1.91)	(1.91)	(1.90)	(1.91)	(1.91)	(1.96)	(1.91)
Constant		0.128***	0.129***	0.128***	0.136***	0.131***	0.125***	0.139***
		(4.85)	(4.82)	(4.77)	(5.21)	(5.04)	(4.75)	(5.37)
N		2615.000	2615.000	2615.000	2664.000	2654.000	2662.000	2675.000
Adjusted R2		0.101	0.101	0.101	0.101	0.101	0.101	0.102
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 9: Regression results of sample partition

	Exp. sign	AbsDA		DA_Positive		DA_Negative	
		Pre	Post	Pre	Post	Pre	Post
IND	-	-0.004	-0.004	0.019	0.004	0.032**	0.015
		(-0.32)	(-0.30)	(1.16)	(0.25)	(2.04)	(1.20)
BOARD_SIZE	?	-0.001	-0.006***	-0.000	-0.009***	-0.003	-0.000
		(-0.47)	(-2.74)	(-0.12)	(-3.07)	(-0.70)	(-0.11)
DUAL	+	-0.001	-0.006	0.009	-0.001	0.005	0.005
		(-0.09)	(-1.07)	(1.24)	(-0.09)	(0.67)	(0.84)
WOMEN	-	0.001	0.008	0.009	0.005	0.003	-0.005
		(0.17)	(1.55)	(1.31)	(0.74)	(0.43)	(-0.99)
OWN_CON	-	0.011	-0.011	0.014	-0.014	-0	-0.021
		(0.57)	(-0.78)	(0.63)	(-0.81)	(-0.02)	(-1.52)
OWN_MNG	?	0.021	-0.035*	0.030	-0.005	0.029	0.046**
		(0.74)	(-1.67)	(0.93)	(-0.18)	(1.03)	(2.09)
OWN_FOR	-	-0.048*	-0.022	-0.047	-0.020	0.032	0.004
		(-1.77)	(-1.13)	(-1.42)	(-0.82)	(1.16)	(0.19)
OWN_STATE	+	-0.004	-0.020*	-0.003	-0.031**	0.009	0.006
		(-0.29)	(-1.77)	(-0.16)	(-2.12)	(0.49)	(0.46)
BIG4	-	-0.007	-0.004	-0.009	-0.010	-0.003	0
		(-0.88)	(-0.68)	(-0.98)	(-1.25)	(-0.32)	(0.06)
FIRM_SIZE	-	-0.001	-0.003	-0.003	0.004	-0	0.006***
		(-0.48)	(-1.60)	(-1.09)	(1.33)	(-0.10)	(2.65)
LEV	+	-0.025	0.013	0.042**	0.047**	0.010	0.007
		(-1.43)	(0.84)	(2.04)	(2.12)	(0.48)	(0.42)
GROWTH_A	+	0.094***	0.055***	0.076***	0.041**	0.021	0.015*
		(6.33)	(4.40)	(3.19)	(2.25)	(1.28)	(1.72)
ROE	-	-0.067	-0.207***	-0.347***	-0.332***	-0.315***	-0.236**
		(-0.75)	(-3.67)	(-4.11)	(-4.08)	(-2.78)	(-2.26)
CFO_WC3_LTA	-	0.053	0.102***	0.293***	0.294***	0.233***	0.323***
		(1.48)	(3.29)	(6.02)	(6.12)	(5.99)	(9.76)
Constant		0.124***	0.155***	0.025	0.050	-0.129**	-0.164***
		(3.51)	(6.00)	(0.69)	(1.37)	(-2.49)	(-5.69)
N		1572	2052	771	946	801	1106
Adjusted R-square		0.113	0.131	0.389	0.383	0.126	0.214
Industry dummies		Yes	Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses. The regression approach is OLS with robust standard error clustered by firm. Dependent variable AbsDA is winsorized at the 1st and 99th percentiles. IND is the proportion of independent directors on the board. An independent director is defined as not holding an executive position in the firm or related parties of the firm, and not having a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

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