

Corporate governance reform, board independence and earnings management: Evidence from Vietnam

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Abstract

For an emerging economy with a relatively short history of private capital market, corporate governance is a critical area of improvement in Vietnam. Following international best practices, the Circular 121 of 2012 introduced stricter corporate governance regulations. Among them is the requirement that independent directors should make up at least one-third of a firm's board of directors. In this study, we examine whether this mandatory requirement of board independence succeeds in reducing earnings management. Analyzing a large sample of 523 non-financial listed Vietnamese firms from 2009–2016, we do not find a significant relationship between earnings management and the proportion of independent directors on the board, nor any evidence that Circular 121 has an impact on this relationship. The results are consistent across different regression models and various robustness tests. Overall, the findings of the study suggest that corporate governance reform to increase board independence may not be an effective tool in mitigating earnings management.

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

1. INTRODUCTION

Earnings are believed to be the premier financial information providing a robust indication about the prospects of a firm (Lev, 1989). Companies with healthy earnings tend to generate higher valuation, attract more investors, and raise capital at favorable terms. Therefore, delivering a good earnings performance is one of the most important tasks of corporate executives. 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 effect 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 stock market's efficiency 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. As earnings management is a result of weak corporate governance, strengthening the governance framework is crucially important in combating against earnings management. Since the late 1990s, numerous developed and emerging countries have undertaken corporate governance reform, defined as "deliberate interventions in a country's corporate governance tradition by the state, security and exchange commission, or stock exchanges"

(Kim & Lu, 2013). Corporate governance reform can be a set of voluntary best practices or mandatory rules. It may directly address financial reporting practices (i.e. Sarbanes-Oxley Act issued in 2002 in the U.S.), or it may also address other corporate governance mechanisms such as board independence (i.e. the Cadbury Report issued in 1992 in the U.K.).

In 2012, Vietnam also had a corporate governance reform with the issuance of Circular 121/2012/TT-BTC (hereafter, Circular 121) dated July 26, 2012. The most notable change was the requirement of board independence: independent directors should make up at least one-third of the board of directors in all listed companies. This is also the first legal document in Vietnam to clearly distinguish and define the concepts of "non-executive directors" and "independent directors". It stipulates that 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.

Since the enactment of Circular 121, no study has yet examined its effectiveness in increasing board independence and reducing earnings management among Vietnamese 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 face potentially significant costs 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 sufficient incentives to monitor financial reporting process and thus improve earnings quality. Our study aims at verifying this proposition and therefore formulates the following research question:

Does the 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, and use of various estimation methods, we do not find a significant relationship between board independence and earnings management. Furthermore, there is no evidence that Circular 121 has an impact on this relationship. These results are consistent across different ways to measure earnings management and other robustness tests. The finding suggests that independent directors in Vietnamese listed firms may not discharge their monitoring role effectively to reduce earnings management. Circular 121, by requiring higher board independence, does not seem to help improve the situation.

Our 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). As a result, despite having a strong growth and many economic and social achievements, the Vietnamese capital market is still relatively under-researched. There is a need for more studies of present-day accounting, particularly the financial reporting practices and corporate governance of listed firms. Our study contributes towards fulfilling this research gap.

Second, to the best of our knowledge, no prior study has examined the moderating impact of corporate governance reforms on the relationship between board independence and earnings management in Vietnam. For example, Essa et al. (2016) and Le et al. (2016) study earnings management and board independence among Vietnamese listed firms but do not examine the impact of Circular 121 which was effective during their study period. Third, in comparison to prior studies in corporate governance that often use the terms “independent directors” and “non-executive directors” interchangeably, our study adopts a more refined measure of board independence. Dechow et al. (1996), Le et al. (2016) and Peasnell et al. (2000) use the percentage of non-executive directors in determining board independence. However, the degree to which non-executive directors are actually independent is not established. Outside directors may still have a material relationship with the company. For example, they may have large shareholdings of the firm or they may be executive managers of the firm’s related entities. In our study, we take meticulously identify independent directors. An independent director 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 used in prior studies.

The remainder of this paper is organized as follows. In Section 2, the theoretical framework and empirical evidence are discussed and the hypotheses are developed. A sub-section dedicated to explaining the Vietnamese institutional context is also included. In Section 3, the research methodology, regression models, and data collection are presented. In Section 4, the findings are presented and discussed. Finally, Section 5 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Board independence

Theoretical background

Earnings management can reflect opportunistic behavior of managers. When financial reporting is not trustworthy, firms face multiple consequences such as an increase in the costs of capital (Dechow et al., 1996). The capital market efficiency is also impaired due to the information asymmetry problem which deters investors from making optimal investment decisions (Chung et al., 2009). Extant literature suggests that opportunistic earnings management can be mitigated by strengthening corporate governance mechanisms.

An important corporate governance mechanism is to increase the independence of the board of directors. Directors are responsible for monitoring managers on behalf and in the best interest of all shareholders (Jensen & Meckling, 1976). A board typically includes several directors who are also executive managers of the firm. These executive directors help to expedite the flow of information from lower managerial levels to the board and facilitate important discussions related to the firm’s operations. However, powerful managers, typically the CEO, may use their power and superior insights of the firms to dilute the board’s ability to provide independent judgment (Fama & Jensen, 1983).

This problem can be solved by adding independent members to the board. The agency theory suggests that independent directors help to reduce the principal-agent problem. As executive directors work closely with management, they are generally unwilling or unable to control CEOs and managers in the financial reporting process. However, independent directors can effectively perform agency-related tasks such as appointing, compensating, and firing executive managers as they have few material relationships with the firm. Independent directors also play an important role in

minimizing the principal-principal problem. 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. As opposed to executive directors, independent directors have limited connections with large shareholders and thus, they are more likely to ensure a fair treatment towards minority shareholders (Kim et al., 2007)

The resource dependence theory posits that firm performance is determined by its unique resources and therefore, firms must constantly search and acquire new resources to remain competitive (Wernerfelt, 1984). Under this theory, independent directors may bring diversified expertise to the board due to their different sets of social and human capital. Peasnell et al. (2000) suggest that non-executive 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 specialize 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.

The stakeholder theory postulates that firms should take into account the interest of all stakeholders, not only shareholders (Freeman et al., 2010). The stewardship theory posits that servants of the firm strive to be a steward of the shareholders because they are motivated by a variety of non-economic incentives such as reputation, satisfaction, and achievement (Muth & Donaldson, 1998). These two theories 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 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.

Empirical evidence

The above-mentioned theories suggest that independent

directors, due to their independence, capabilities, and personal motivations, can help to control earnings management. A magnitude of contemporary findings is in alignment with this view. Analyzing a sample 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. Klein (2002) finds that earnings management by US firms 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 studies suggest that the inclusion of independent members on the board can increase the board's monitoring effectiveness.

Based on the theories discussed and the empirical evidence, the first hypothesis of this study is formulated as follows:

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

2.1 Corporate governance reform

Background

The view that independent directors can help to improve the effectiveness of internal control mechanisms and reduce 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, the New York Stock Exchange and the National Association of Securities Dealers proposed in 2002 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 compensation from the firm other than a 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 function of the board, specifically 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 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 financial reports and 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 and reports. Besides, public companies are required to make changes in internal control, especially accounting control.

A decade earlier, a major governance reform also took

place in the U.K. In 1992, the "Committee on the Financial Aspects of Corporate Governance" chaired by Adrian Cadbury published a Report which included the Code of Best Practices providing 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 listed 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, responding to major earnings management scandals and other financial frauds, the Chinese Securities Regulatory Commission (CSRC) and the Shanghai and Shenzhen Stock Exchanges introduced new guidelines that prescribed the adoption of independent directors for Chinese listed companies. The 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.

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) find 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 listed companies to examine the effectiveness of the Cadbury Report issued in 1992, Peasnell et al. (2000) find less income-increasing accrual management when the proportion of non-executive directors is high in the post-Cadbury period. Chen & Zhang (2014) examine Chinese listed firms and find that the magnitude of earnings management decreases considerably after the introduction of the corporate governance guidelines in 2002, which requires more independent directors on the board. Altogether, these results are consistent with the view that boards that are more independent discharge their financial reporting duties more effectively.

The Vietnamese context

Although the two stock exchanges in Vietnam were established in 2000 and 2005, there was no specific law

addressing listed firms. These firms were mainly governed by the Enterprise Law issued in 1999 (revised in 2005). It was until June 2006 that the National Assembly issued the first Law on Securities. However, this law mainly guided the trading of stocks 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 are 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 was still a new concept.

In March 2007, the first Corporate Governance Code for Vietnamese listed firms was issued by the Ministry of Finance (Decision 12/2007/QĐ-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, 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 bore common criticisms such as gaps in documents and enforcement, vague definitions and overlapping regulations, and 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 did not clearly define their responsibilities (Vu et al., 2018). Vietnamese corporate governance was 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 were not effective (Freeman and Nguyen, 2006). Companies whose state ownership was high may enjoy sanction in case of failure (Vu et al., 2018). Therefore, it was uncommon to observe an incompetent director being fired or punished for bad decisions.

These limitations lead to several major scandals of listed companies such as the delisting of Bach Tuyet Cotton Company¹ in 2009, the "Vinashin scandal"² in 2010, and the bankruptcy of Vien Dong Pharmacy Company³ 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 (Nguyen et al., 2019; Vu et al., 2018). It was no surprise that the Corporate Governance Scorecard published in 2012 by the International Financial Corporation (IFC) revealed a downward trend in corporate governance scores of Vietnamese listed firms, which were lower than most other ASEAN countries.

However, Vietnam had taken steps to improve its corporate governance practices. The year 2012 witnessed an important change in corporate governance regulations with the issuance of Circular 121. The Circular amended current regulations on several aspects such as the Board of Directors, the Supervisory Board, and shareholder protection. However, the most important reform was the “1/3 rule”, requiring one-third of the board of directors in public non-listed companies⁴ to be non-executive. For public listed companies, a stricter regulation applied: at least one-third of the board must be independent. Unlike Decision 12, Circular 121 was fully mandatory and firms would be fined if they fail to comply with any rule regardless if they would report their non-compliance or not. The amount of fine for non-complying firms also increased.

International corporate governance best practices often divide categories of directors into three types (though not necessarily mutually exclusive). These 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. Accordingly, independent directors, besides being non-executive, may not have a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm.⁵

The reforms introduced by the Circular may not have a direct impact on earnings management because improving financial reporting was not the focus of it. However, it may have a moderating impact on earnings management via board independence. The Circular imposes stricter regulation on board independence and 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.

All else equal, if Circular 121 has helped to increase board independence and thereby improved the effectiveness in monitoring managers, we 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 earnings management among Vietnamese listed firms is more pronounced in the post-reform period.

3. METHODOLOGY AND DATA

3.1 Model specification

To test the hypotheses, we follow the literature (e.g. Chen & Zhang, 2014; Lobo & Zhou, 2009; Peasnell et al., 2000) and estimate the following regression model using the Ordinary Least Squares (OLS) regression method:

$$EM_{it} = \beta_0 + \beta_1 IND_{it} + \beta_2 REFORM_t + \beta_3 IND * REFORM_{it} + \beta_c CONTROL_{it} + INDUSTRY_i + YEAR_t + \varepsilon_{it}$$

where:

EM_{it} = Earnings management of firm i in year t.

IND_{it} = The percentage of independent directors on the board of firm i in year t.

$REFORM_t$ = Dummy variable representing corporate governance reform that takes the value 1 for the years 2013–2016, and zero otherwise.

$CONTROL_{it}$ = A group of control variables.

$INDUSTRY_i$ = Industry control dummies.

$YEAR_t$ = Year control dummies.

ε_{it} = Error term of firm i in year t.

Dependent variable

As a proxy for earnings management, we estimate discretionary accruals (DA_{it}) using the Modified Jones model. The first step is to calculate total accruals for each firm-year observation.

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

where:

TA_{it} = total accruals for firm i in year t.

ΔCA_{it} = change in current assets for firm i in year t.

ΔCL_{it} = change in current liabilities for firm i in year t.

$\Delta CASH_{it}$ = change in cash and cash equivalents for firm i in year t.

ΔSTD_{it} = change in debt included in current liabilities for firm i in year t.

$DEPRE_{it}$ = depreciation and amortization expense for firm i in year t.

Total accruals are then regressed against sales revenue growth (ΔREV) and value of property, plant and equipment (PPE) separately for each year and industry using the following regression model:

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

Discretionary accruals are estimated as the residuals (ε_{it}) of the regression.⁶ Since managers have incentives to either increase or decrease income to manage earnings,

we use the absolute value of discretionary accruals in regressions.

Besides the Modified Jones model, we use the model proposed by Kothari et al. (2005) to estimate an alternative metric of earnings management. This model uses the same procedure as in the Modified Jones model. The only difference is that firm performance (ROA) is added as another explanatory variable of total accruals:

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

Independent variables

Before 2012, the word “independent” was synonymous to “non-executive”. The Circular 121 makes a distinction by stipulating that independent directors, besides not holding an executive position in the firm or related parties of the firm, must not have a direct relationship with any major shareholders, large suppliers, large customers, legal advisors, or external auditors of the firm. Annual reports of firms do not provide transparent information to outline independence. Most firms do not declare information about the relationship of their directors with business partners, legal advisors, or external auditors. To arrive at a single consistent measurement for board independence during the time-period of our study, we do not use firms’ categorization but resort to other information available in annual reports to determine whether a director is independent or not. Consequently, independent directors are not members nor related to any member of the company’s Board of Management and associated companies (i.e. subsidiaries, parent company, and sister companies); and not a major shareholder of the company; not a representative or a related person of a major shareholder of the company. The percentage of independent directors on the board (IND) is used as a measure of board independence. In order to make a comparison with prior studies, we also use the percentage of non-executive directors (NED) as an alternative measure.

To examine the impact of Circular 121, we use the interaction IND*REFORM. The variable REFORM is a dichotomous variable that takes the value 1 for the years 2013–2016, and zero otherwise. Although Circular 121 was effective from September 17, 2012, the requirement for board independence started to be effective in 2013. Therefore, the post-Circular period is chosen from 2013 onwards.

Control variables

We include board size (B_SIZE) as a control variable given the well-documented correlation between board size and earnings management. Larger boards produce a less candid discussion of managerial performance and board joint power in resisting CEO dominance is reduced (Jensen, 1993; O’Reilly et al., 1989). Thus, as board size increases, earnings management also increases. From a

resource-based view, firms need stakeholders with good monitoring capabilities to reduce earnings management. Foreign shareholders can be one category of them as foreign shareholders often come from advanced markets with strong corporate governance (Douma et al., 2006). Therefore, we include foreign ownership (FOREIGN) in our model, anticipating that firms with higher foreign ownership are expected to manage earnings less (Guo et al., 2015; Kim & Yoon, 2008). In Vietnam, the State still holds large ownership in many listed companies (Hoang et al., 2017; Vu et al., 2018). As a controlling shareholder, the State may have incentives to influence the firm’s financial reporting to mislead minority shareholders and extract more private benefits. Thus, we include State ownership (STATE) as another control variable (Hoang et al., 2017; Essa et al., 2016).

A few other firm characteristics are also included in the model. Earnings management is found to be lower among larger firms because these firms are subject to greater political or regulatory scrutiny (Jensen & Meckling, 1976). DeFond & Jiambalvo (1994) report that managers use discretionary accruals to avoid costly debt covenant violations. McNichols (2000) suggests that firms with higher growth rates are subject to a higher degree of earnings management because internal control problems usually emerge when the speed at which firms grow exceeds the monitoring capacity of the board. Dechow et al. (1995) and Lee et al. (2006) document that discretionary accruals estimated from the Jones model are negatively correlated with ROA. Finally, firms with strong operating cash flow performance are less likely to employ income-increasing discretionary accruals (Lobo & Zhou, 2009). From these discussions, we include firm size (F_SIZE), leverage (LEV), growth in assets (GROWTH), firm performance (ROA), and operating cash flows (OCF) as control variables. Table 1 provides the details of all variable measurements.

3.2 Data

The time range of this study is from 2009–2016, dividing into two equal windows: the pre-reform period covering the years 2009–2012, and the post-reform period covering the years 2013–2016. The sample includes Vietnamese firms listed on both the Ho Chi Minh Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX). Financial information is extracted from two databases, namely ORBIS (orbis.bvdinfo.com) and Vietstock (finance.vietstock.vn).

The initial sample includes 754 firms listed on HOSE and HNX as of June 2020. A few criteria are applied to the initial sample:

- All banks, insurance companies, and financial institutions are excluded due to their special characteristics and the different regulations governing them.
- Each firm must have at least three 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.

The final sample includes 523 firms with 3774 firm-year observations. These firms are distributed across nine industries according to NACE industry classification code.

4. RESULTS AND DISCUSSION

4.1 Descriptive statistics

Table 2 presents descriptive statistics of all variables, winsorized at the 1st and 99th percentiles. The mean (standard deviation) of EM is 11.1% (11.2%) in the pre-reform period and 11.2% (11.4%) in the post-reform period. These numbers are higher than those reported in a few other countries. For example, the mean (standard deviation) of absolute discretionary accruals measured by the Modified Jones model is 7.4% (7.9%) in Taiwan (Chen et al., 2007), and 8.5% (6.2%) in China (Chen & Zhang, 2014). There was no statistically significant change in EM.

In contrast, mean IND significantly increased from 37.3% pre-reform to 44.1% post-reform. The trend towards a more independent board is consistent with the results documented by the Report by IFC (2018)⁷ and other Vietnamese studies (To & Suzuki, 2019; Essa et al., 2016). However, the standard deviation is quite high, at around 22.2% throughout the full period, which means that there is a big gap in the board independence level between the best and the worst companies. As mentioned earlier, the criteria for an independent director as outlined in the rule are stricter than in this study and therefore, the actual mean of IND may be lower.

Because of the addition of more independent directors, it is not surprising that the mean of B_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.

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 privatization plan of the government. 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 2012–2017 (IFC, 2018).

For firm characteristics, over the full period, the mean LEV is 49.9%, mean GROWTH of 23.1%, and mean

ROA of 6.6%, which 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 relationships among the dependent, independent, and control variables are examined using Pearson's correlation matrix. Table 3 shows the correlation coefficients and their significance. As can be seen, the highest coefficient is -0.47 between LEV and ROA. All the other coefficients are below 0.4, giving little concern for multicollinearity problem.

4.2 Regression results

Independent variables

Table 4 presents the results of regression analysis. Earnings management is estimated from both the Modified Jones model and the Kothari model. Eight different regression results are presented. We observe that the coefficients of IND are statistically insignificant in all models. The finding suggests that the proportion of independent directors does not have an impact on earnings management among Vietnamese listed companies. Therefore, Hypothesis 1 is rejected. The finding puts the role of Vietnamese independent directors into question.

The relationship between EM and IND remains insignificant in the post-reform period. In Models 3, 4, 7 and 8, both IND and the dummy variable REFORM are statistically insignificant. The interaction coefficients IND*REFORM are also statistically insignificant. Overall, after controlling for corporate governance and firm characteristics variables, there is no evidence that Circular 121 strengthens the monitoring role of the board of directors. Hypothesis 2 is also rejected. This finding is in contrast to the studies in developed capital markets such as the U.S. or the U.K. (Cohen et al., 2008; Lobo & Zhou, 2009; Peasnell et al., 2000). However, it is consistent with earlier studies from Vietnam and other emerging markets (Essa et al., 2016; Liu et al., 2014).

Control variables

The coefficient of B_SIZE is negative and significant at the 5% level in models using the Modified Jones approach and at the 10% level in models using the Kothari approach. This is consistent with the notion that as board size increases, it is more difficult to reach consensus on important decisions. The coefficient of FOREIGN is negative and significant at the 5% levels, 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 coefficients of STATE are positive and significant. Chen et al., (2011) argue that since the compensation contracts of managers in state-owned companies place relatively less weight on earnings, they have weaker incentives to manage earnings.

The variable F_SIZE is significantly negative in all 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 is positive and strongly significant at the 1% level in all models. 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, 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 our expectation, OCF is positively correlated with earnings management 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) state that operating cash flows can be a tool for firms to manage earnings rather than a cause.

4.3 Robustness tests

Sample partition

Instead of analyzing the full sample and focusing on the interaction term IND*REFORM, we divide the sample firms according to the pre- and post-reform period and analyze the two subsamples separately. The regression results are presented in Table 5. We find that the coefficients of IND are insignificant in both the pre- and post-reform periods. Board independence has no impact on earnings management of firms.

Excluding the transition year

While examining the impact of regulation changes (Liu & Yang, 2008; Peasnell et al., 2000), many studies exclude the year when the new regulation is announced by considering it as a transitional year. Firms could have heard of the reform and started to change board independence before it came into force. Therefore, we also check if removing the year of issuing Circular 121 (2012) changes the results. Accordingly, we consider the new pre-reform period as 2009–2011. To create a comparable time window, the post-reform period is considered as from 2013–2015. Again, IND and IND*REFORM are insignificant across all models (see Appendix 1).

Alternative measurement of board independence

Prior studies usually examine non-executive directors. Therefore, we also use the percentage of non-executive directors on the board (NED) as an alternative proxy for board independence. The regression results are presented in Appendix 2. The results show that the variables NED has no significant relationship with EM. Non-executive directors still probably lack the knowledge and capabilities to discharge their monitoring role. The significance of other variables remains unchanged.

4.4 Discussion

The insignificant results of IND and the interaction term IND*REFORM are consistent across different measurements of earnings management 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.

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. 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).

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 no advanced qualifications other

than a bachelor's degree.

The relatively young age and limited experience of the independent directors in the survey reflect that they are a recent addition to the 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. In our study, while board independence increases significantly, board size does not change too much, suggesting that original directors may be replaced to give room for independent directors. Therefore, after the reform, the board is dominated by many independent directors who are ineffective in their role.

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). For example, a CEO can select directors who are independent as per legal requirements but are actually his or her close friends. In this case, setting a numerical target for outside directors may be merely window-dressing. 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 affect the decision to appoint independent directors.

Independent directors prefer the advisory role

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 & Black, 1998). 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 may also be relevant to Vietnam. High State ownership is common in listed Vietnamese companies. In our study, the State has at least 50% of ownership in 29% of observations. 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 i.e. the State. 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).

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 of the firm compared to inside directors (Uribe-Bohorquez et al., 2018). 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": 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 (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.

5. CONCLUSION

This study examines the effectiveness of corporate governance reform in Vietnam via the issuance of Circular 121 in 2012. The Circular stipulates that all listed firms must include at least one-third of independent directors on the board. The Circular is expected to curtail the earnings management problem among Vietnamese listed firms by increasing board independence. Based on the sample of 523 non-financial listed firms from 2009–2016, our study does not find a significant relationship between board independence and absolute discretionary accruals among Vietnamese listed firms. This relationship remains insignificant after the imposition of

new regulation of Circular 121. These results do not change even after performing various robustness tests. We fail to find any support for the two hypotheses of this study, meaning that having a higher percentage of independent directors on the board may not help to reduce earnings management and corporate governance reform may not improve the situation. This finding possibly reflect unique characteristics of the Vietnamese capital market (e.g., young and transitional).

Our 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 quality in Vietnam. The results of the study provide regulators, policymakers, and investors practical insights. Regulators may design appropriate corporate governance policies that can facilitate more disclosures, improve quality of financial statement numbers and reduce managerial inclination to manage firm's earnings. Both domestic and foreign investors may develop a better understanding of ongoing corporate governance issues in Vietnam.

Like any other study, our study is also susceptible to limitations. The first limitation 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, we 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 we could not check if independent directors have worked for an external auditor or legal advisor during the past two years. Consequently, the definition of "independent director" in our study only satisfies three out of five criteria as mandated by Circular 121. Future studies may choose a smaller sample of firms and thoroughly examine 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, we could not collect any director-specific information that can influence their role as independent directors. Future research could search for additional data that take into account characteristics such as professional experience, tenure in the firm, age, qualifications, concurrent positions held at other companies. 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).

Future studies may also investigate the effectiveness of a new regulation (Decree 71/2017/ND-CP) and compare it with Circular 121. A stricter requirement for independent directors came into force: they must not hold more than 1% of the shares in the company (compared to 5% specified in Circular 121). In addition, the new Decree also stipulates that from the 1st of August 2020, the CEO of a listed company be not allowed to concurrently hold

the position of the Board Chairman.

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NOTES

1. Listed on HOSE in 2004, Bach Tuyet Cotton Company (BBT) is the market leader in 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 experienced a net income loss continuously from 2006-2007; even stopped its operations from July 2008; and had its stock delisted in August 2009.
2. 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. 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.
3. Vien Dong Pharmacy Company (DVD) was listed on HOSE in 2009 and looked very promising with impressive profitability ratios. However, in August 2011, HOSE suddenly announced that DVD would file for bankruptcy and its stock would be delisted. The CEO was arrested for allegations against creating fake transactions to manipulate stock prices.
4. According to 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 on 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.

5. Non-executive director:
 - 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:
 - Not a member of the company's Board of Management; not related to a member of the company's Board of Management
 - Not a member of the Board of Management of associated companies (i.e. subsidiaries, parent company, and sister companies);
 - Not a major shareholder of the company; not a representative or a related person of a major shareholder of the company;
 - Not working at organizations that provide legal advice or auditing services for the company in the last two years;
 - 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.
6. In the original specification of the Modified Jones model (Dechow et al., 1995), adjusting the change in revenue (ΔREV) for the change in receivables (ΔREC) is done using the original coefficients in the regression without the term ΔREC . Recently, however, researchers have begun to estimate cross-sectional versions of the Modified Jones model in which ΔREC is introduced right at the estimation stage (Peasnell et al., 2000).
7. Data is collected from 100 largest listed companies in Vietnam, 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.

Table 1. Variable definitions

| Variable | Definition |
|--|--|
| <i>Dependent variable</i> | |
| Earnings management (EM) | The absolute value of discretionary (abnormal) accruals |
| <i>Independent variables</i> | |
| Board independence (IND) | Percentage of independent directors on the Board of Directors. |
| Corporate governance reform (REFORM) | Dummy variable equal to 1 for the years 2013–2016, 0 otherwise. |
| <i>Control variables – Corporate governance</i> | |
| Board size (B_SIZE) | Total number of directors on the Board of Directors. |
| Foreign ownership (FOREIGN) | Percentage of stocks held by foreign investors |
| State ownership (STATE) | Percentage of stocks held by the state |
| <i>Control variables – Firm characteristics</i> | |
| Firm size (F_SIZE) | Natural logarithm of book value of total assets |
| Leverage (LEV) | Long-term debt divided by book value of total assets |
| Growth (GROWTH) | Percentage of change of this year’s assets compared to last year’s assets |
| Firm performance (ROA) | Operating income divided by book value of total assets |
| Operating cash flow (OCF) | Operating income before depreciation minus working capital divided by lagged total assets. |
| INDUSTRY | Industry dummies |
| YEAR | Year dummies |

Table 2. Descriptive statistics

| | Pre-reform (2009–2012) | | | | Post-reform (2013–2016) | | | | Mean Difference | |
|----------------|------------------------|-------|--------|--------|-------------------------|-------|--------|--------|-----------------|--------|
| | N | Mean | S.D. | Median | N | Mean | S.D. | Median | Change | t-stat |
| EM | 1694 | 0.111 | 0.112 | 0.079 | 2069 | 0.112 | 0.114 | 0.080 | -0.001 | -0.25 |
| IND | 1678 | 0.373 | 0.220 | 0.400 | 2068 | 0.441 | 0.220 | 0.400 | 0.065*** | 9.17 |
| B_SIZE | 1705 | 5.450 | 1.164 | 5.000 | 2069 | 5.493 | 1.109 | 5.000 | 0.070** | 2.15 |
| FOREIGN | 1670 | 0.055 | 0.111 | 0.003 | 2061 | 0.078 | 0.123 | 0.019 | 0.027*** | 7.62 |
| STATE | 1683 | 0.273 | 0.245 | 0.260 | 2066 | 0.196 | 0.245 | 0.000 | -0.071*** | -13.06 |
| F_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 | 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 |

All variables are defined in Table 1. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Table 3. Correlation matrix

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|---------|---------|------|
| (1) EM | 1.00 | | | | | | | | | | |
| (2) IND | 0.01 | 1.00 | | | | | | | | | |
| (3) REFORM | 0.01 | 0.15*** | 1.00 | | | | | | | | |
| (4) B_SIZE | -0.04* | 0.09*** | -0.00 | 1.00 | | | | | | | |
| (5) FOREIGN | -0.04* | 0.09*** | 0.10*** | 0.24*** | 1.00 | | | | | | |
| (6) STATE | -0.08*** | -0.21*** | -0.16*** | -0.12*** | -0.18*** | 1.00 | | | | | |
| (7) F_SIZE | -0.01 | 0.05** | 0.07*** | 0.30*** | 0.26*** | 0.00 | 1.00 | | | | |
| (8) LEV | -0.00 | -0.12*** | -0.04* | -0.03 | -0.17*** | 0.10*** | 0.33*** | 1.00 | | | |
| (9) GROWTH | 0.29*** | 0.04* | -0.04* | 0.03 | 0.01 | -0.10*** | 0.12*** | 0.05** | 1.00 | | |
| (10) ROA | -0.00 | -0.06*** | -0.10*** | 0.06*** | 0.12*** | 0.10*** | -0.06*** | -0.41*** | 0.09*** | 1.00 | |
| (11) OCF | 0.18*** | -0.03 | -0.04** | 0.04** | 0.08*** | 0.00 | 0.01 | -0.29*** | 0.31*** | 0.54*** | 1.00 |

All variables are defined in Table 1. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Table 4. Independent directors and earnings management: regression results

| | Modified Jones model | | | | Kothari model | | | |
|-------------------------|----------------------|----------------------|--------------------|---------------------|----------------------|---------------------|--------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| IND | -0.005 (-0.56) | -0.004 (-0.47) | -0.012 (-1.00) | -0.011 (-0.86) | -0.004 (-0.45) | -0.004 (-0.46) | -0.011 (-0.92) | -0.011 (-0.87) |
| REFORM | | | -0.000 (-0.03) | -0.007 (-0.58) | | | 0.001 (0.12) | -0.006 (-0.51) |
| IND*REFORM | | | 0.014 (0.84) | 0.012 (0.73) | | | 0.013 (0.84) | 0.012 (0.77) |
| B_SIZE | | -0.004** (-2.24) | | -0.004** (-2.25) | | -0.003* (-1.94) | | -0.003* (-1.95) |
| FOREIGN | | -0.036** (-2.34) | | -0.036** (-2.32) | | -0.035** (-2.29) | | -0.035** (-2.27) |
| STATE | | -0.015* (-1.81) | | -0.015* (-1.82) | | -0.017** (-2.14) | | -0.017** (-2.15) |
| F_SIZE | -0.005*** (-4.11) | -0.003** (-1.96) | 0.005*** (4.11) | -0.003** (-1.97) | -0.005*** (-4.05) | -0.003** (-2.07) | 0.005*** (4.05) | -0.003** (-2.07) |
| LEV | 0.001 (0.08) | -0.004 (-0.34) | 0.001 (0.07) | -0.004 (-0.34) | 0.003 (0.30) | -0.001 (-0.05) | 0.003 (0.29) | -0.001 (-0.05) |
| GROWTH | 0.069*** (5.82) | 0.067*** (5.67) | 0.069*** (5.82) | 0.067*** (5.67) | 0.066*** (5.79) | 0.064*** (5.64) | 0.066*** (5.79) | 0.064*** (5.64) |
| ROA | -0.149*** (-2.91) | -0.142*** (-2.68) | 0.149*** (2.91) | 0.142*** (2.67) | -0.143*** (-2.90) | 0.136*** (2.65) | 0.143*** (2.89) | 0.136*** (2.64) |
| OCF | 0.083*** (3.51) | 0.083*** (3.47) | 0.083*** (3.51) | 0.082*** (3.47) | 0.079*** (3.56) | 0.079*** (3.51) | 0.079*** (3.56) | 0.079*** (3.51) |
| Constant | 0.159*** (8.27) | 0.161*** (8.00) | 0.161*** (8.20) | 0.164*** (7.94) | 0.149*** (7.88) | 0.153*** (7.64) | 0.152*** (7.84) | 0.155*** (7.61) |
| Industry dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 3736 | 3685 | 3736 | 3685 | 3736 | 3685 | 3736 | 3685 |
| Adjusted R ² | 0.114 | 0.117 | 0.114 | 0.117 | 0.112 | 0.115 | 0.112 | 0.115 |

The table presents OLS regression results analyzing the impact of independent directors (IND) on earnings management. Variable descriptions are presented in Table 1. The t-statistics, reported in parentheses, are based on robust standard error clustered by firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Table 5. Regression results of sub-samples: Pre-reform period (2009–2011) and post-reform period (2013–2015).

| | Modified Jones model | | | | Kothari model | | | |
|-------------------------|----------------------|----------------------|---------------------|----------------------|--------------------|----------------------|---------------------|----------------------|
| | (1) | | (2) | | (3) | | (4) | |
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post |
| IND | -0.014 (-1.11) | 0.002 (0.17) | -0.010 (-0.81) | 0.001 (0.09) | -0.012 (-1.03) | 0.003 (0.27) | -0.011 (-0.85) | 0.002 (0.16) |
| B_SIZE | | | -0.002 (-0.56) | -0.005*** (-2.64) | | | -0.002 (-0.60) | -0.004** (-2.13) |
| FOREIGN | | | -0.053** (-2.11) | -0.023 (-1.21) | | | -0.052** (-2.13) | -0.022 (-1.16) |
| STATE | | | -0.003 (-0.27) | -0.022** (-2.24) | | | -0.010 (-0.79) | -0.022** (-2.24) |
| F_SIZE | -0.004** (-2.07) | -0.006*** (-3.75) | -0.001 (-0.68) | -0.004** (-2.14) | -0.003* (-1.77) | -0.006*** (-3.93) | -0.001 (-0.43) | -0.004** (-2.49) |
| LEV | -0.016 (-0.94) | 0.013 (0.86) | -0.023 (-1.36) | 0.010 (0.64) | -0.014 (-0.84) | 0.017 (1.14) | -0.019 (-1.16) | 0.014 (0.95) |
| GROWTH | 0.091*** (6.47) | 0.058*** (4.56) | 0.091*** (6.25) | 0.056*** (4.47) | 0.089*** (6.40) | 0.055*** (4.53) | 0.088*** (6.15) | 0.053*** (4.45) |
| ROA | -0.074 (-0.88) | -0.215*** (-3.93) | -0.070 (-0.81) | -0.206*** (-3.61) | -0.058 (-0.72) | -0.217*** (-4.18) | -0.050 (-0.60) | -0.209*** (-3.87) |
| OCF | 0.058* (1.69) | 0.100*** (3.20) | 0.055 (1.57) | 0.102*** (3.27) | 0.053 (1.59) | 0.098*** (3.44) | 0.049 (1.46) | 0.100*** (3.50) |
| Constant | 0.144*** (4.80) | 0.147*** (6.42) | 0.131*** (4.09) | 0.156*** (6.64) | 0.125*** (4.22) | 0.145*** (6.46) | 0.117*** (3.63) | 0.152*** (6.60) |
| N | 1668 | 2068 | 1628 | 2057 | 1668 | 2068 | 1628 | 2057 |
| Adjusted R ² | 0.111 | 0.126 | 0.113 | 0.129 | 0.110 | 0.126 | 0.113 | 0.128 |
| Industry dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

The table presents OLS regression results analyzing the impact of independent directors (IND) on earnings management. Variable descriptions are presented in Table 1. The t-statistics, reported in parentheses, are based on robust standard error clustered by firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

APPENDICES

Appendix 1. Analysis with different time windows: 2009–2011 as pre-reform and 2013–2015 as post-reform period.

| | Modified Jones model | | | | Kothari model | | | |
|-------------------------|----------------------|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| IND | -0.006 (-0.56) | -0.005 (-0.46) | -0.011 (-0.70) | -0.009 (-0.58) | -0.005 (-0.48) | -0.005 (-0.48) | -0.009 (-0.63) | -0.009 (-0.60) |
| REFORM | | | 0.018 (1.47) | 0.013 (1.01) | | | 0.020* (1.71) | 0.014 (1.16) |
| IND*REFORM | | | 0.009 (0.44) | 0.007 (0.36) | | | 0.008 (0.42) | 0.008 (0.38) |
| B_SIZE | | -0.003 (-1.64) | | -0.003* (-1.65) | | -0.003 (-1.53) | | -0.003 (-1.54) |
| FOREIGN | | -0.043** (-2.30) | | -0.043** (-2.29) | | -0.038** (-2.07) | | -0.038** (-2.06) |
| STATE | | -0.015 (-1.50) | | -0.015 (-1.50) | | -0.017* (-1.80) | | -0.017* (-1.81) |
| F_SIZE | 0.004*** (-2.66) | -0.001 (-0.87) | 0.004*** (-2.66) | -0.001 (-0.87) | -0.004*** (-2.75) | -0.002 (-1.09) | -0.004*** (-2.75) | -0.002 (-1.08) |
| LEV | 0.009 (0.65) | 0.003 (0.17) | 0.009 (0.64) | 0.003 (0.17) | 0.015 (1.05) | 0.009 (0.66) | 0.015 (1.04) | 0.009 (0.66) |
| GROWTH | 0.065*** (5.43) | 0.063*** (5.27) | 0.064*** (5.42) | 0.063*** (5.27) | 0.062*** (5.39) | 0.060*** (5.23) | 0.062*** (5.38) | 0.060*** (5.23) |
| ROA | -0.098 (-1.51) | -0.093 (-1.38) | -0.098 (-1.51) | -0.093 (-1.37) | -0.099 (-1.60) | -0.094 (-1.45) | -0.099 (-1.59) | -0.094 (-1.44) |
| OCF | 0.057** (2.00) | 0.058** (1.98) | 0.058** (2.00) | 0.058** (1.98) | 0.056** (2.07) | 0.056** (2.05) | 0.056** (2.07) | 0.056** (2.06) |
| Constant | 0.133*** (5.85) | 0.132*** (5.57) | 0.135*** (5.80) | 0.134*** (5.52) | 0.126*** (5.64) | 0.127*** (5.44) | 0.127*** (5.61) | 0.129*** (5.41) |
| N | 2715 | 2672 | 2715 | 2672 | 2715 | 2672 | 2715 | 2672 |
| Adjusted R ² | 0.099 | 0.101 | 0.099 | 0.101 | 0.099 | 0.101 | 0.098 | 0.100 |
| Industry dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

The table presents OLS regression results analyzing the impact of independent directors (IND) on earnings management. Variable descriptions are presented in Table 1. The t-statistics, reported in parentheses, are based on robust standard error clustered by firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Appendix 2. Results using the proportion of non-executive directors as an alternative definition of board independence.

| | Modified Jones model | | | | Kothari model | | | |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| NED | 0.005 (0.55) | 0.007 (0.74) | -0.011 (-0.80) | -0.009 (-0.62) | 0.005 (0.49) | 0.006 (0.63) | -0.011 (-0.80) | -0.010 (-0.68) |
| REFORM | | | -0.016 (-1.17) | -0.021 (-1.52) | | | -0.013 (-1.00) | -0.019 (-1.42) |
| NED*REFORM | | | 0.031 (1.64) | 0.029 (1.56) | | | 0.029 (1.60) | 0.028 (1.56) |
| B_SIZE | | -0.004** (-2.24) | | -0.004** (-2.27) | | -0.003* (-1.92) | | -0.003* (-1.96) |
| FOREIGN | | -0.038** (-2.47) | | -0.037** (-2.42) | | -0.037** (-2.43) | | -0.036** (-2.37) |
| STATE | | -0.014* (-1.74) | | -0.015* (-1.81) | | -0.016** (-2.07) | | -0.017** (-2.14) |
| F_SIZE | -0.005*** (-4.14) | -0.003** (-2.11) | -0.005*** (-4.11) | -0.003** (-2.09) | -0.005*** (-4.07) | -0.003** (-2.20) | -0.005*** (-4.04) | -0.003** (-2.18) |
| LEV | 0.004 (0.34) | -0.002 (-0.16) | 0.004 (0.31) | -0.002 (-0.17) | 0.006 (0.53) | 0.001 (0.10) | 0.006 (0.50) | 0.001 (0.09) |
| GROWTH | 0.068*** (5.83) | 0.067*** (5.67) | 0.068*** (5.81) | 0.066*** (5.65) | 0.066*** (5.80) | 0.064*** (5.64) | 0.066*** (5.77) | 0.064*** (5.61) |
| ROA | -0.150*** (-2.98) | -0.143*** (-2.73) | -0.150*** (-2.97) | -0.143*** (-2.71) | -0.146*** (-3.00) | -0.138*** (-2.72) | -0.146*** (-2.99) | -0.138*** (-2.70) |
| OCF | 0.085*** (3.61) | 0.083*** (3.52) | 0.084*** (3.61) | 0.083*** (3.52) | 0.081*** (3.67) | 0.079*** (3.56) | 0.081*** (3.67) | 0.079*** (3.56) |
| Constant | 0.156*** (8.15) | 0.158*** (7.93) | 0.164*** (8.17) | 0.167*** (7.96) | 0.147*** (7.79) | 0.150*** (7.59) | 0.155*** (7.82) | 0.159*** (7.62) |
| Industry dummies | Yes |
| Year dummies | Yes |
| N | 3754 | 3700 | 3754 | 3700 | 3754 | 3700 | 3754 | 3700 |
| Adjusted R ² | 0.114 | 0.117 | 0.115 | 0.117 | 0.113 | 0.115 | 0.113 | 0.115 |

The table presents OLS regression results analyzing the impact of non-executive directors (NED) on earnings management. Variable descriptions are presented in Table 1. The t-statistics, reported in parentheses, are based on robust standard error clustered by firm. *, **, or *** indicate that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.