The Effects of Corporate Governance Attributes on Real Earnings Management of Public Listed Companies in Bangladesh

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Abstract

The act of real earnings management takes place in companies when investors' financial assurance is high and unrelenting corporate governance mechanisms are in place. This conceptual paper examines the effects of corporate governance attributes on real earnings management of public listed companies in Bangladesh. In this study, real earnings management has been measured through the use of three proxies' abnormal discretionary expenses, abnormal production cost, and abnormal cash flow from operations. Board characteristics and audit committee characteristics have been examined as corporate governance attributes with the in-line relation of agency theory. The sample comprises of 244 listed companies in the capital market in Bangladesh from 15 various industries for the past 6 years from 2015 to 2020. Bank, financial institution, corporate bond, debenture, insurance, mutual fund, and treasury bond companies are excluded. The study's findings will be significant for market participants and policymakers in ascertaining an effective corporate governance framework that can resolve the issue of real earnings management.

Keywords:

Real Earnings Management (REM), Corporate Governance, Board Characteristics, Audit Committee Characteristics.

INTRODUCTION

The reported earnings are such a metrics by which companies' condition, and managerial effectiveness are portrayed and companies' financial prospects and economic reality are delineated (Dichev et al., 2016). Reported earnings numbers are significant and fill in as candlelight for users seeking exorbitant, materialistic and relevant data, both inside and outside the company "(e.g., shareholders, employees, investors, debt holders, managers and financial analyst)" in deriving with business decisions. The internal and external users' heavy reliance on earnings gives an opportunity for managers to use accounting discretion in arriving at earnings figures. One of the objectives of this act is to meet earnings forecast and thresholds, regulatory decisions (Gandhi, 2020). The reason is to avoid a damaging reputation and a hefty negative stock price reaction that may adversely damage the economy. Managers take part in "acts whereby accounting policies (such as GAAP) or real actions (e.g., reducing R&D) are

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being used to accomplish the targeted earnings objectives, a process that is being referred to as earnings management".

In a nutshell, shareholders find it very difficult to derive a well-informed decisions because a company's true performance is mystical due to existing earnings management in the financial reports. Faulty financial information leads to poor economic decisions that may cost the public a lot because there is a possibility that the value of securities may be under or overvalued (Mahmud & Jesmin Ara, 2015). In the regulatory framework, corporate governance is one of the mechanisms that play vital role to reestablish certainty, confidence, uprightness and integrity of the information provided by curbing these activities. Corporate governance is a critical policy agenda and much required for the advancement of a market oriented economy and instilling investors' confidence, integrity and accountability of financial information (Tolulope et al., 2018).

Bangladesh, being one of the Eastern South Asian countries is categorized as an emerging market (Debnath, 2019) and characterized by factors such as close ties business organization, political impact and predominant presence of family controlled organizations that could result to information asymmetry (Debnath et al., 2019). Moreover, according to Nguyen, Tran, Hong Nguyen, and Le, (2017) corporate accounting disclosure practice of companies may be influenced by environmental factor. In the past, the country's corporate governance code has been revamped three times of which the corporate governance code 2018 is the current amendments. Number of studies have revealed that reported earnings of average large publicly traded companies in Bangladesh have been manipulated (Parvin, 2020). In Bangladesh, over the years the corporate scandals are increasing in numbers (e.g., "Bismillah Group", "Hallmark", "Modern Food Ltd", "Oriental Bank" etc.) alongside two biggest stock market failures (in 1996, and 2011). More recently, irregularities and the manipulation of Legacy Footwear, Queens South Textile and Bangladesh Auto Cars in 2019 (Dsb report, 2019 September 23), again in 2019 GQ Ball Pen Industries (Tbs report, 2019 September 16), Al-Haj Textile, Monno Ceramics and Monno Jute Stafflers (New age, 2019 September 13), and in 2017 BBS Cables Ltd (Tbs report, 2017 August 22).

All these failures and corporate scandals have subjected the relevant and importance of financial information into doubt. As a result of these irregularities and inappropriateness, indications for the need of corporate governance to salvage the situation came to limelight. In fact, all these scandals raised questions about transparency and accountability of management on the power entrusted in them in providing relevant information to the shareholders and stakeholders. In this study, the corporate governance mechanisms that is considered are board characteristics and audit committees characteristics coupled with various subheads that have been examined by few researchers in different context. The study intends to address the question is that of "do board characteristics and audit committee characteristics have effects on real earnings management?" The objective of this study is to study the effects of board characteristics and audit committee characteristics on real earnings management which is in line with the question.

In Bangladesh context, Prior researchers have investigated some correlations between corporate governance mechanisms and earnings management using (accrual) proxies such as discretionary accruals, abnormal working capital accruals, and board performance. However, the idea of looking into the influence of these mechanisms on the company's real operating and investment decisions has yet to be addressed (Hasan & Rahman, 2020; Muktadir & Keyamoni, 2019; Parvin, 2020). Also, none of these studies have used data after the revamp of the corporate governance code 2018 code. This would indicate a clear picture of whether there

is a parallel shift of companies in listed companies in Bangladesh from accrual-based earnings management to real earnings management. This would enable the regulatory authorities and standard setter to be steadfast in proving measures that will curb and limit the practices and also to be aware the elements of the corporate governance variables that are more effective in curbing these practices (Chatterjee, 2019; Isiaka, 2019).

Objectives

In line with the major research question, the objective of this study is to examine the effects of corporate governance on real earnings management. Specifically, the study addresses the following research objectives:

i. To examine the effects of board characteristics (board size, board independence, board diligence, female directorship and CEO duality) on real earnings management.
ii. To examine the effects of audit committee characteristics (audit committee size, audit committee independence and audit committee diligence) on real earnings management.

Literature review

Real activities manipulation occurs with the deviance from normal operating activities of the company in order to mislead stakeholders and shareholders that certain financial goals of the company have been accomplished (Cohen et al., 2008; Mellado & Saona, 2020). Roychowdhury, (2006), defines that real earnings management practices are perpetrated through three distinct methods. This involves manipulating normal operating activities and investment activities in the purpose of achieving targeted earnings. In other words, the use of operating cash flow, production costs, and discretionary expenses. Thus, real earnings management involves activities such as research and investment decisions that are related to real production and investment decisions (Mellado-Cid et al., 2019).

There are substantial evidences that managers employ earnings management (Das et al., 2018; Zehri & Zgarni, 2020) but most importantly issue that has become a hot spot and triggered corporate finance and accounting researchers is the continuous switch in the use of some normal activities in managing earnings. Callao, Jarne, and Wróblewski, (2014) viewed earnings management from three different perspective (e.g. earnings management within the GAAP, outside the GAAP and real earnings management) and classification shifting (Góis & Parente, 2020). Adjusting the timing of operating, financing and investment activities is how real earnings management is carried out, which could have a long term consequences on the company (Luo et al., 2017). According to Palareti et al., (2016) media and analysts have largely focused on accrual earnings management, whilst managers have attempted to move to real earnings management which has received less media attention in the post-Sarbanes-Oxley era. In addition, Choi, Sohn, and Yuen, (2018) reveals that stringent auditing measures engulf companies to result in real earnings management.

Andreas, (2017) examined the impact of using real operating activities (namely: timing of assets sale, reduction in R&D, reduction in SG&A and over production) of 52 companies. The findings show that managers manipulate earnings to accelerate financial reporting outcomes. Thus, this is achieved when they deviate from normal operating activities or change in accounting methods. In some cases, companies perpetrate real earnings management, if restrictions are there in managing earnings by using accruals earnings management. Yang,

(2015) suggest that outside investors are more likely to identify accrual earnings management compared to real earnings management which has to do with other components of the financial position statement and income statement around equity offerings. In an earlier study Cohen et al., (2008) found that amount of accrual-based earnings management rises preceding the enactment of SOX Act from 1987-2001 but decreases after the introduction of the Act. Consequently, they found real earnings management to be on the rise after the post-Sarbanes Oxley Act and accrual earnings management on the decrease. This is an indication that companies have identified another strategy of meeting earnings benchmark and after the passage of SOX Act companies changed from the accrual method of managing earnings to real-based earnings management.

Braam et al., (2015) found that companies use both accrual and real earnings management interchangeably and that using real earnings preceded that of accrual earnings management, using a huge data set of 5493 publicly traded companies from 30 countries. Rapushi, (2019) identified that during seasonal equity offerings companies use real earnings management and the impact is more costly and deleterious than using accrual-based earnings management. Recent study by, Nguyen & Soobaroyen, (2019) found that managers managed real operating activities to achieve positive income and decrease earnings to avoid regulatory and stakeholders' scrutiny. On the same vein, Susanto, (2017) evidenced that managers are shifting from their normal operating activities depending on their financial year and value to change the purchasing behavior of the consumer and meet earnings targets. The implication is that the featured advertisement and changing the forms of sales promotion would have a positive impact on the company's near short-term performance, but also a costly consequence on the long-term prospect of the company.

Agency theory has been a long-standing theory related to several fields e.g., economics and finance in ensuring sufficient economic organization (Fama, 1980) sociological literature (Kapoor & Goel, 2019) and managerial behaviors (Jensen & Meckling, 1976). The pioneer of agency theory such as Fama, (1980) and Jensen & Meckling, (1976) pinpoint that the theory was propounded to provide measures that could address the conflict that arises between security holders and managers. In reducing the conflict between the two parties, corporate governance mechanisms could play an important role (Eisenhardt, 1989).

Specifically, agency theory propels the agency relationship that arises when one party being the principal hands over some duties to the other party known as the agent (Salloum et al., 2016). In addition, agency problem arises due to the deviance act of the managers from that of the shareholder. Certainly, there is a tendency that the agent may either act partially or may not even act in the best favor of the principal, but agency theory has indicated that managers have discretion in the expropriation of fund providers by the supplier of capital and there is likely to be deviance in reporting earnings. One of the reasons for agitating for accounting earning disclosure and reporting is because of agency problem that arises between corporate managers and shareholders (Healy & Palepu, 2001). The two basic assumptions of agency theory involve information asymmetry and opportunism behavior of the managers (Kapoor & Goel, 2019).

The information asymmetry arises because being an insider in the company, Managers have access to all accessible information and are in a position to transmit it to the executives who to act on the information that managers provided. Mostly the information is also used by stakeholders. In categorizing those that are best informed and can easily access the financial information, at the top of it is the manager, followed by outside directors and shareholders (Ghazalat et al., 2017). As a result of achieving the company objectives and maximizing the

shareholders' wealth, managers do everything possible to achieve the aim. Effective corporate governance would serve as sophisticated measures to align and secure the interest of managers with shareholders and stakeholders for the organisation's success and efficiency and significant for a country's economic growth (Ghazalat et al., 2017) . Consequently, agency theory suggests that the board of directors and audit committee play a vital role in making sure that companies engage in corporate governance of best practices.

Corporate governance variables are critical as monitoring components for managers' actions, notably in the financial reporting process. Several studies have looked into the link between corporate governance variables (such as board and audit committee characteristics) and earnings management, with discretionary accrual being used as a proxy for earnings management. However, there have been few studies that have investigated employing real earnings management, notably in the South Asia zone, to which Bangladesh belongs. As a result, the current study gave light on how these variables affect real earnings management.

Oz and Yelkenci, (2018) analyzed real earnings management and accrual-based earnings management from a global viewpoint. They find that managing earnings through the operational activities than the accounting choices is a preferable option, nevertheless, this happens in countries with more grounded investor protection. On another study, Susanto, (2017) examines the role that board of directors plays in alleviating certain aspects of real earnings management, that is research and development. It was documented that independent directors have the expertise and technical knowledge how in constraining real earnings management activities (R&D reduction) to achieve short-term goals such as meeting earnings target etc. in addition, the dominance of insiders of the board may support the managers' decisions in skimming research and development cost.

Enomoto et al., (2015) examined the role that corporate governance variables play from real earnings management perspective since managers engage in both accounting and real operating activities in meeting accounting numbers. The results indicate that of all the corporate governance variables, specifically board characteristic (e.g., size, independence and CEO duality) has a significant negative association with real earnings management whereas only board meeting is found to have insignificantly connected with real earnings management, contrarily, other variables such as audit committee characteristics are also found to be effective in reducing the level of real earnings management.

In a related study, Lai & Tam, (2017) Using a sample of 34 non-financial Chinese companies from 2011 to 2016, analyze the influence of various subheads of board structure on earnings management as suggested by the Chinese Securities Market Supervisory Authorities Recommendations. The results show that board structures negatively affect earnings management, but the existence of an audit committee is seemingly ineffective in restraining earnings management activities. Huang and Sun, (2017) investigated the influence of corporate governance in influencing managerial decisions and manipulating the real activities of the company. The findings indicate that board size and its independence restrain managers from engaging in real activity-based earnings management. An indication that a manager's aggressiveness in overproduction and cutting down discretionary expenses could be mitigated by having a larger board size, whereas aggressive sales promotion could be reduced as the number of independent director increases.

In developing countries, empirical evidence by Kharashgah et al., (2019) examines whether the characteristics of the board of directors restrict the practices of real earnings management in companies in Jordan from 2011 to 2017. They found that out of the board

characteristics variables, only board size and the ratio of independent director on the board is considered to have a significant effect on the incidence of earnings management. Real earnings management has a negative association with these two variables. In particular, the size of the board of directors of a public listed firm in Tehran, as well as the proportion of independent directors on the board, limit the level of real earnings management.

In summary, the relationship between some corporate governance characteristics and real earnings management has been inconsistent. The current study will focus on the various corporate governance components, particularly board and audit committee characteristics, by expediting the variables in subheads, by the components and changes to the corporate governance code as given by the securities commission.

This study aims to shed light on the effects of corporate governance on real earnings management. The first group of hypotheses concerns on the relationships between board characteristics and real earnings management. The second group of hypotheses concerns on the associations between audit committee characteristics and real earnings management. Board characteristics play a crucial role in corporate governance, and the structures that contribute to its effectiveness are very minute. The board of directors is saddled with series of responsibilities such as appointment, supervision, organizational strategies, and remuneration policy, all to ensure accountability to authorities, and internal and external users of financial statements. An important attribute of a board includes its size, independence and demographic attributes of directors sitting on it (Baatour et al., 2017). An effective board can be known through improved performance, reduced earnings management, less shareholder litigation among others. The audit committee serve as financial monitor of the financial reporting process, meets with the auditors on a regular basis to vet the financial information and audit process (Pacheco & Wheatley, 2017). The audit committee characteristics might also be determinant factor in its ability to act as financial monitor (Bajra & Cadez, 2018). Effective audit committees are more prone to restrain earnings management (Nor Hanani, 2015).

Higher board sizes have been considered by researchers as a way to strengthen information management and develop information sources (Feng & Huang, 2020; Saona et al., 2020). For example, Feng and Huang, (2020) document that a bigger board size plays a pivotal role in constraining earnings management. Bajra and Cadez, (2018) reported that board sizes between six to eight and 13 to 15 are irrelevant to income-decreasing discretionary accruals. Whereas, board sizes of Nine to12 inclusive were shown to be positive and significant at 0.05. According to (Tolulope et al., 2018) board size is found to have a negative and statistically significant relationship with earnings management.

On real earnings management, Baatour et al , (2017); Garven, (2015) documented that a larger board size reduces the incidence of real earnings management activities i.e., abnormal operation and investment decisions, but it is significantly and positively related to abnormal discretionary expenses. Chouaibi, Harres and Ben Barhim, (2018) found that large board size restrains the act of real earnings management. Given the postulation of the agency theory on the supervisory role of the boards in minimalizing or moderating agency problems, larger boards would utilize their time and effort to carry out monitoring roles to mitigate agency problems, while smaller boards could fail to realize earnings management activities (Tolulope et al., 2018). Given this, the current study, therefore holds that the large board size would have a better mechanism to mitigate real earnings management practices. Therefore, the hypothesis postulates as below:

H1: There is a negative and significant effect of board size on real earnings management.

In enhancing the monitoring role, companies sometimes increase the number of independent directors (Saona et al., 2020). Lai and Tam, (2017) indicate that independent directors are responsible to shareholders, able to devote their time to board duties and demonstrate the spirit of independence and balance of power between board and management. Some scholars also found that, they play a vital part in influencing the earnings management incident in a company (Obigbemi et al., 2016). Chi et. al, (2015) suggested that the existence of a majority of independent directors on corporate boards of Taiwanese listed companies reduces the incidence of earnings management. An integrated meta-analysis of prior studies conducted by Oliver, (2019) indicated that there is a negative relationship between board independence and earnings management.

Regarding real earnings management Garven, (2015) pinpointed that board independence restrains the practices of real earnings management. Alhadab and Clacher, (2018) found that having a greater ratio of independent directors on board constrains real earnings management. Specifically, abnormal discretionary expenses and abnormal production costs are negatively correlated with board independence and abnormal operating cash flow is positively correlated with board independence (Alhadab & Clacher, 2018; Li et al., 2020). This implies that directors' independence negatively affects real earnings management practices, for example, companies with more independent directors reduce abnormal production costs and increase abnormal discretionary expenses. Thus, more independent directors are prone to support the concept of reduction in real earnings management. Hence, the hypothesis postulates as below:

H2: There is a negative and significant effect of board independence on real earnings management.

The board meetings serve as an avenue where management collectively deliberates on issues that are advantageous and disadvantageous to the firm. In Bangladesh, nine board meetings are held on average in a financial period (Biswas, 2015). Generally, independent directors are expected to meet six to eight times in a year (Khamees, 2016). Jessie, (2019) found that companies with high return financially and internationally in form of return on equity has a probability of holding more meetings. Muktadir and Keyamoni, (2019) documented that when there is an increase in the number of meetings, earnings management reduces, an indication that the frequency of meetings has an impact on mitigating earnings management (Muktadir & Keyamoni, 2019). On real earnings management Garven, (2015) found board meetings are negatively related to abnormal operating cash flow and also negatively related to abnormal discretionary expenses, however positively related with abnormal production cost. Therefore, the hypothesis postulates as below:

H3: There is a negative and significant effect of board diligence on real earnings management.

Female directorship caught to notability due to financial irregularities in the corporate field, prompting the question of if the existence of more women on corporate boards will influence the behavior of people who stiffen a company's position. Researchers have attached agency theory and stakeholder's theory to gender diversity research. Rajeevan & Ajward, (2019) argued that Agency theory is of the view that having more females on the corporate board does not have any negative financial consequence. In a study by Arun et. al., (2015) utilizing a large data survey of board members in the UK, women and male directors found that female directors are prone to be risk disinterested and less power mongered compared to their men counterparts that are power-oriented and risk-takers.

Senanayake & Ajward, (2017) examined women's participation in onboard performance. They found that companies with a greater percentage of women in management systems and governance create value to withstand stock-market 86 returns, by having positive abnormal returns of 0.17% monthly -6% return over 3 years. Naheem & Mohammad, (2016) debate that gender diversity on corporate boards could make better the quality of board discussion, independent board decisions, discussions, and brainstorming because males and females have different behavior and thinking momentum. According to evidence, female directors have been demonstrated to perform a stronger monitoring and advisory role, which they exercise through board meetings, nominating committees, and requesting an explanation from the board when specific goals are not accomplished. Therefore, the hypothesis postulates as below:

H4: There is a negative and significant effect of female directorship on real earnings management.

The segregation of the responsibilities of the chairman and CEO has been suggested to provide an effective system of checks and balances against potential management abuse of power (Safari, 2017). Feng and Huang, (2020) state that the dual function of the CEO as board chairman is “the real threat to the exercise of independent judgment by the board of directors.” Chen, (2019) contends that the dual leadership system produces too much authority in the hands of the CEO and turns it more problematic for a board in replacing the CEO if the company appears to be performing poorly, potentially limiting the board’s suppleness to substantial performance decreases (Oliver, 2019; Zehri & Zgarni, 2020). In the same vein, Aldaoud, (2015) documented that the separation of chairman and CEO roles is significant in restraining earnings management practices. Kharashgah et al., (2019) found that CEO duality and abnormal cash flow from operation and discretionary expenses are negatively associated, however, the relationship is found to be insignificant. Shiyaamsundar, (2018) contrariwise, demonstrates a positive connection with abnormal discretionary expenses in their findings. Therefore, the present study postulates that:

H5: There is a negative and significant effect of CEO duality on real earnings management.

Ibadin and Elijah, (2015) documented that the size of the audit committee is significant in restraining earnings management. On contrary, Abata and Migiro, (2016) indicate that audit committee size is insignificantly positively related to earnings management. Adhikary and Mitra, (2016) stated that a typical audit committee has at least three members, which is a sign of an efficient financial examining role that can impact the audit process be it internal or external. In real earnings management, Al-Absy et. al., (2019) the result shows that size of the audit committee is significantly related to a low level of REM. However, according to Kharashgah et al., (2019) the size of the audit committee is insignificant in restraining real earnings management. Hence, the present study posits the following hypothesis:

H6: There is a negative and significant effect of audit committee size on real earnings management.

Kusnadi et. al., (2016) found a positive association between audit committee independence and the quality of financial reporting. Prior studies by Tolulope et. al., (2018) have identified that audit committee independence is negatively associated with earnings persistence, a sign that, the purpose of having independent audit committee members is to safeguard shareholders' interest and make sure that the financial statement presented reflects the true picture of the company. Garven, (2015) documents that audit committee independence is not effective in restraining real earnings management. Therefore, the present study posits the following:

H7: There is a negative and significant effect of audit committee independence on real earnings management.

Through empirical observation, companies that held more meetings have their earnings management at a lower level. On average, audit committees are anticipated to meet four to five times per year, with a size of three to four members. Nor Hanani, (2015) documented that more diligent audit committees will be better off in the matter of ensuring the adoption of conservative earnings practices to assure higher earnings quality. Gabonaise, (2019) found a negative association between audit committee meetings and restatement for audit committee members who meet at least four times each year. Gabonaise, (2019) showed that audit committee meeting is insignificant for two of the three metrics of real earnings management (abnormal production cost and abnormal cash flows) an empirical study on corporate governance effect in alleviating real earnings management. According to an indication that it just restrains abnormal discretionary expenses, it is marginally substantial in reducing real earnings management activities, which can be conclusive. Therefore, the present study posits the following:

H8: There is a negative and significant effect of audit committee diligence on real earnings management.

Methodology

The unit of analysis is a company and the sample population is comprised of listed companies on Dhaka Stock Exchange in Bangladesh. To meet the objectives of the study, the sample size would be financial data for the past 6 years, which is 2015-2020 of 221 listed companies from 15 various industries. After exclusions of the data for the bank, financial institutions, corporate bond, debenture, insurance, mutual fund and treasury bond eventually, 244 firms are available to be selected. The financial data are collected from Thomson Rueters Eikon & Datastream and the data on corporate governance is gathered from the annual reports of the respected companies which are downloaded through either the respective websites of the companies or the library/archive of the Dhaka Stock Exchange (DSE) Website.

The study addresses two objectives; the first objective is to investigate the association between board characteristics and real earnings management, while the second objective is to investigate the association between audit committee characteristics and real earnings management. To identify and derive the stated value for normal activities, the three proxies abnormal cash flow from operations, abnormal discretionary expenses, and abnormal production cost would be used. Regression analysis would be performed on every single model in real earnings management. Roychowdhury (2006) developed this model, which has been used by previous researchers. Sales and variations in sales, for example, are subject to a linear relationship in normal cash flow.

"Abnormal cash flow from operation =Actual cash flow from the operation – Normal level of cash flow from operation using the estimated coefficient in equation 1".

"Normal cash flow is governed by a linear relationship between sales and sales changes."

$$\left(\frac{CFO_t}{ASSETS_{t-1}}\right) = \alpha_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{S_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \sum_t \quad \ldots\ldots\ldots\ldots(1)$$

Abnormal discretionary expenses

Advertising, research and development, and selling, general and administrative expenses are all example of discretionary expenses. Discretionary expenses are stated as a function of lagged sales.

$$\left(\frac{DEXP_t}{ASSETS_{t-1}}\right) = a_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{S_{t-1}}{A_{t-1}}\right) + \sum_t \quad \ldots\ldots\ldots\ldots(2)$$

Abnormal production cost

Abnormal production cost is achieved by increasing the fixed production overhead cost per unit across a large number of goods produced.

$$\left(\frac{PROD_t}{ASSETS_{t-1}}\right) = a_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{S_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \beta_3\left(\frac{\Delta S_{t-1}}{A_{t-1}}\right) + \sum_t \quad \ldots\ldots\ldots(3)$$

Where:

CFOt = "the cash flow from operations of firm i in year t,"

DEXPt = "amount of discretionary expenditure (i.e. the sum of R&D, advertising, and SG&A expenditure) of firm i in year t;"

PRODTt = "the sum of the cost of goods sold of firm i in year t,"

ASSETSt-1= is "the total assets of firm i in year t – 1,"

St = "the net sales of firm i in year t;"

ΔSt = "change in net sales of firm i in year t;"

αk, βk = "coefficients;" and

∑t = "error term."

Board size= "The number of board members in a company's organizational structure."

Board independence= "The percentage of independent directors on the board [Number of independent directors /Board Size]."

Board diligence = "The number of board meetings held per financial year."

Female directorship= "The percentage of women on the board of directors."

CEO Dual= "When the CEO and MD are the same person."

Audit committee size= "Numbers of audit committee members on the audit committee."

Audit independence= "Independence of audit committee measured as number of non-executive director in audit committee/ Total audit committee member."

Audit committee diligence = "No. of audit committee meeting held during each financial year."

Abnormal cash flow from operation

$$ABCFO = a_0 + \beta_1 BODSZ + \beta_2 BODIND + \beta_3 BODDIL + \beta_4 FDIR + \beta_5 CEODUA + \beta_6 ROA + \beta_7 LEV + \beta_8 CSZ + \textstyle\sum_t \ldots\ldots\ldots\ldots (4)$$

$$ABCFO = a_0 + \beta_1 AUDSZ + \beta_2 AUDIND + \beta_3 AUDDIL + \beta_4 ROA + \beta_5 LEV + \beta_6 CSZ + \textstyle\sum_t \ldots\ldots\ldots\ldots (5)$$

$$ABDEXP = a_0 + \beta_1 BODSZ + \beta_2 BODIND + \beta_3 BODDIL + \beta_4 FDIR + \beta_5 CEODUA + \beta_6 ROA + \beta_7 LEV + \beta_8 CSZ + \textstyle\sum_t \ldots\ldots\ldots\ldots (6)$$

$$ABDEXP = a_0 + \beta_1 AUDSZ + \beta_2 AUDIND + \beta_3 AUDDIL + \beta_4 ROA + \beta_5 LEV + \beta_6 CSZ + \textstyle\sum_t \ldots\ldots\ldots\ldots (7)$$

Abnormal production cost

$$ABPROD = a_0 + \beta_1 BODSZ + \beta_2 BODIND + \beta_3 BODDIL + \beta_4 FDIR + \beta_5 CEODUA + \beta_6 ROA + \beta_7 LEV + \beta_8 CSZ + \textstyle\sum_t \dots\dots\dots\dots\dots (8)$$

$$ABPROD = a_0 + \beta_1 AUDSZ + \beta_2 AUDIND + \beta_3 AUDDIL + \beta_4 ROA + \beta_5 LEV + \beta_6 CSZ + \textstyle\sum_t \dots\dots\dots\dots\dots\dots (9)$$

Where:

ABCFO = "abnormal cash flow from operations,"

ABDEXP = "abnormal discretionary expenses,"

ABPROD = "abnormal production costs,"

BODSZ = "board size,"

BODIND = "board independence,"

BODDIL= "board diligence,"

FDIR= "female directorship,"

CEODUA= "CEO duality,"

AUDSZ = "audit committee size,"

AUDIND = "audit committee independence,"

AUDDIL= "audit committee diligence,"

ROA= "return on assets,"

LEV= "leverage,"

CSZ= "firm size,"

αk, βk = "coefficients; and

∑t = "error term."

CONCLUSION

In conclusion, this study examines the effects of corporate governance attributes on real earnings management. Specifically, this study examines the effects of board characteristics and audit committee characteristics on real earnings management. In earlier studies, some inconsistency has been observed between certain corporate governance variables and real earnings management relationships. Despite the corporate governance code has been revamped three times since 2006, it is anticipated that the corporate governance would have a strong influence in controlling the activities of managers. The findings from this study will be

particularly useful to market participants and policymakers in distinguishing significant corporate governance mechanisms that could help with real earnings management.

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