MATERIAL ACCOUNTING MISSTATEMENTS: DO MANAGERIAL OVERCONFIDENCE, FINANCIAL DISTRESS, AND CORPORATE GOVERNANCE PRACTICES MATTER?

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Abstract

This study examined factors related to the occurrence of material accounting misstatements in Malaysian public listed companies (PLCs). Two factors, motivation and opportunity, were assessed in this study. According to Jensen (1993), as the consequences of material accounting misstatement can be extremely detrimental to the firms and their employees, the occurrence of such affairs must be driven by strong motivation and a great opportunity. The motivation factors consist of managerial overconfidence and financial distress, while the opportunity factors include internal and external corporate governance practices. A total of 103 misstatement and 103 non-misstatement firms, gathered from 2010 to 2018, were examined. Univariate and binary logistic regression analyses were deployed to test the hypotheses. Evidently, highly financial distress, a higher proportion of board independence, the practice of CEO duality, and a larger size of borrowings exerted a significantly positive relationship with material accounting misstatements. Interestingly, a higher proportion of independent board members encouraged the likelihood of material accounting misstatements instead of mitigating such mishaps. This study provides insights to regulators on the efficacy of corporate governance practices in curbing material accounting misstatements. The study addresses the element of managerial overconfidence, which was previously limited to studies on capital structure and leverage decisions.

Keywords: Accounting, Accounting Misstatement, Financial Distress, Corporate Governance, External Audit, Malaysia

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1. INTRODUCTION

A financial statement is the most important source of information for the stakeholders of a firm. Since not all stakeholders have direct access to the firm's information, most of them rely on the financial statement to gain insights. This highlights the importance of maintaining reliable financial reports. Although corporate regulations and accounting frameworks deployed in Malaysia are parallel with international standards, material accounting misstatements are continually reported. For instance, the case involving three China-based firm scandals — China Stationery Ltd, Xingquan International Sports Holdings Ltd, and Maxwell International Holdings Bhd — as well as other public listed companies (PLCs) such as YFG Bhd and TRIVE Property Group Bhd. Referring to the Global Economic Crime and Fraud Survey carried out by PricewaterhouseCoopers (PwC, 2020), fraud and economic crimes across global economies have skyrocketed with even more adverse effects. The Association of Certified Fraud Examiners (ACFE) has classified a misstatement as extremely costly mainly because the effects are more severe than other occupational fraud (ACFE, 2020). Apart from financial losses, firms lost their value, reputation, and credibility; aspects that require longer time to heal and revive after the disclosure of misstatements (Sakawa & Watanabel, 2021). Other than that, the risks of lawsuits by inflicted stakeholders also increase after the announcement of material accounting misstatement, especially if it is fraud-related (Bardos, Golec, & Harding, 2013). Despite being non-fraudulent, misstatement always causes shareholders to have a negative impression towards the firm.

As the consequences of corporate offences are extremely detrimental, these unpleasant occurrences must be addressed with strong motivation and great opportunity (Jensen, 1993). To identify the motivations behind the event of material accounting misstatements, multiple studies have investigated managerial overconfidence and financial distress, which are believed to create pressure that may influence the judgement of managers. The U.S. Government Accountability Office (GAO, 2002), which claimed that accounting misstatements reflect the shortcoming of corporate governance, found that internal and external corporate governance practices create an opening for the occurrence of material accounting misstatements. The proxies for internal corporate governance practices include board independence, multiple directorships, audit committee independence, audit committee expertise, and CEO duality. On the other hand, the proxies for external corporate governance practices refer to non-audit services, Big 4 audit firms, and the size of borrowings. Turning to Malaysia, its corporate governance has a good reputation especially with regular updates on the Malaysian Code of Corporate Governance (MCCG), along with the Bursa Malaysia Listing Requirement (BMLR) and the participation of regulators (i.e., Securities Commission Malaysia, SCM) that safeguard the standard of corporate reporting. However, the Malaysian Institute of Corporate Governance (MICG) revealed that the level of corporate governance disclosure and transparency among firms was below par, while the quality of public reporting was viewed with great concern (Yusof, 2017).

To mitigate material accounting misstatements by identifying the factors that influence their occurrences, this study takes the opportunity to investigate the association between motivation and opportunity factors, and the occurrence of material accounting misstatements. Motivation factors inclusive of managerial overconfident and financial distress, while opportunity factors include both internal and external corporate governance practices such as board and audit committee independence, multiple directorships, audit committee expertise, CEO duality, non-audit services, Big 4 audit firm, and size of borrowings.

Using binary logistic regressions, both motivation and opportunity factors were simultaneously analysed to examine the association with material accounting misstatements. Based on the binary logistic regression analysis, the study found that material accounting misstatements are associated with highly financial distress firms, a higher proportion of board independence, the practice of CEO duality, and a larger size of borrowings. The findings from this study can be applied by regulators in reconsidering the existing practices related to corporate governance and accounting misstatements while motivating other researchers to investigate material accounting misstatements more intensively.

The remaining of this paper is structured as follows. Section 2 reviews the relevant literature in developing the hypotheses of the study. Section 3 focuses on the research methodology used to test the hypotheses, followed by Section 4 which presents the results from descriptive, correlation, and binary logistic regression analyses. Section 5 provides a discussion of the findings. And lastly, Section 6 provides the conclusion that specifies some limitations and recommendations for further research on material accounting misstatements as well as the practical contribution, particularly for the regulators.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Material accounting misstatements

The Malaysian Institute of Accountants (MIA, 2018) approved the application of International Standards on Auditing, ISA 450, which defines the term "misstatement" as "a difference between the amount, classification, presentation or disclosure of a reported financial statement item and the amount, classification, presentation or disclosure that is required for the item to be in accordance with the applicable financial reporting framework". In other words, misstatement denotes the non-compliance presentation of financial statement items with relevant financial reporting frameworks. Any reported financial information that does not reflect its true amount or condition as stipulated by the standard is considered as accounting misstatement. The Public Company Accounting Oversight Board (PCAOB) specified that the nature of accounting misstatement, regardless of error or fraud, depends on the intention; intentional or

unintentional. It requires keen judgment to prove if a misstatement is intentionally committed to deceive or unintentional. The International Financial Reporting Standards (IFRS, 2018) associate accounting misstatement with "material" when the misstated or omitted financial information can influence the decisions of financial statement users. When a material accounting misstatement is detected, a financial restatement is issued regardless if it is due to error or fraud (PCAOB, 2018).

Nevertheless, the present auditing standards dismiss auditors from disclosing "immaterial" accounting misstatements in their findings (MIA, 2018). With the absence of disclosure obligations and firms becoming more reluctant to disclose misstatements voluntarily, restatements are commonly produced based on material accounting misstatements (Dunn, 1999). Financial restatement is the consequential event after a material accounting misstatement, hence the terms "misstatement" and "restatement" have been applied by researchers interchangeably (Mohamed Hussain, Mohd Sanusi, Mahenthiran, & Hasnan, 2016; Abdullah, Mohamad Yusof, & Mohamad Nor, 2010). Although material accounting misstatement can significantly affect the decision of financial statement users, the detection is not as timely as desired — it is only known after being discovered either by the company; internal or external auditors, or by the regulators (Ernst & Young, 2015). The announcement of financial restatement may cause the public to question the credibility of the firm's management as well as the accounting and auditing profession. Unfortunately, investors end up with substantial losses due to a misguided decision made, upon referring to the misstated financial report. This can diminish their confidence in the reliability of financial reporting and the credibility of the capital market (Mao, 2018).

2.2. Managerial overconfidence

He, Chen, and Hu (2019) discovered that overconfident managers tend to make irrational decisions. They believe that their decisions are accurate due to the information that they possess, thus generating false optimism about the potential success of the business and undermining the effects of unforeseen events (He et al., 2019). Therefore, managerial overconfidence may affect corporate decisions, besides causing distorted financing and investment decisions. When their overoptimistic forecast and judgment turn out false, they become motivated to misstate or manipulate the financial statement. Schrand and Zechman (2012) illustrated that accounting misstatement in an overconfident firm is related to earnings management due to an overoptimistic forecast. When forecasted performance is not achieved until the end of the financial period, the prior earnings management would cause the firm to involve in material accounting misstatement. Sutrisno and Karmudiandri (2020) claimed that the risk of misstatements in overconfident firms is higher as they become inclined to take risks and invest excessively, beyond rational judgment. Since overconfidence leads to an overoptimistic forecast for future earnings, firms tend to borrow aggressively and this causes them to adopt aggressive earnings management practices. Such practices include delaying losses recognition or whisking revenues recognition, which reflects intentional earnings misstatement performed to meet prior forecasted earning (Schrand & Zechman, 2012).

According to Banerjee, Humphery-Jenner, Nanda, and Tham (2017), the motivation for accounting misstatement intensifies because overconfident managers are not concerned about the probable *ex-post* costs for their actions. Instead, they receive high compensation for it and are unlikely to be removed from their position. Firms typically have the propensity to publish a favourable financial report to gain a positive market reaction, in which such propensity is stronger in firms with managerial overconfidence (Velte, 2021). Such a scenario is more likely to occur when overconfident managers have higher idiosyncratic risk due to their invested shares, reputation, and employability, which relies on firm performance. Past studies on managerial overconfidence in the context of Malaysia have mostly focused on corporate capital structure or leverage decisions while omitting material accounting misstatements (Nor Azhari Hasnan, & Sanusi, 2020). Based on the results reported in other countries, the following hypothesis is proposed:

H1: There is a significantly positive relationship between managerial overconfidence and the occurrence of material accounting misstatement.

2.3. Financial distress

Financial distress refers to a situation when a firm fails to resolve its current financial obligations due to inadequate cash flow (Habib, D'Costa, Huang, Bhuiyan, & Sun, 2020b). Prior studies found that financial distress is often triggered by many factors such as low operational performance, financing structure, illiquid assets, income sensitivity, poor corporate governance, and incompetent management (Habib et al., 2020b). This situation is detrimental to both the firm and its management. The survival rate of a firm may deteriorate upon experiencing more precarious conditions with a higher cost of debt. As the fund is restricted, the firm might lose projects and source of income, as well as suffer from low operational performance and efficiency. This would tarnish the reputation of the firm and earn negative perceptions from stakeholders (Habib et al., 2020b). To rectify this adverse situation, firms should make changes to their financial and organisational structures, especially the top management; thus threatening those in the current management position. To avoid severe consequences of financial distress, the firm management tend to commit accounting misstatement in order to mask their distressed financial position from public knowledge (Habib et al., 2020b; Hasnan, Abdul Rahman, & Mahenthiran, 2014).

Accounting misstatement and earnings management are commonly deployed to secure business opportunities (Hasnan et al., 2022), hinder debt covenant violations (Pittman & Zhao, 2020), secure loans, and prevent stock exchange delisting by distressed firms (Bisogno & De Luca, 2015). Handoko et al. (2020) found that firms with financial slumps suffered from tremendous pressure to

commit fraudulent misstatements in order to gain positive views in stock markets. To secure their reputation, the firms tend to adopt aggressive accounting practices that lead to earnings overstatement (Arnis et al., 2019). As financial distress threatens managerial position and reputation, it promotes opportunistic behaviour of concealing deteriorating performance with accounting misstatement (Mohamed Hussain et al., 2016). Hence, the following is proposed:

H2: There is a significantly positive relationship between financial distress and the occurrence of material accounting misstatements.

2.4. Corporate governance practices

Corporate governance is a monitoring tool that controls the activities of an organisation. As corporate governance monitors firm activities, any loophole in the practice serves as an opportunity for irregularities to take place (Kassem, 2022).

2.4.1. Internal corporate governance

Chang (2015) clarified that corporate governance is composed of two categories; internal and external. Following Chang (2015), this study interprets internal corporate governance as firm internal stakeholders. This study includes board independence, multiple directorships, audit committee independence, audit committee expertise, and CEO duality as proxies for internal corporate governance.

Fama and Jensen (1983) highlighted that independent directors are crucial to minimise the conflict of interest between managers (agent) and shareholders (principal/owner). Such interpretation is well accepted in Malaysia, whereby Bursa Malaysia (2015) specified that one-third of the total board members must be independent members. Essentially, the practice of having an independent board is to ensure the efficacy of board supervision and ethical business conduct, and thus, more independent directors are deemed to successfully mitigate opportunistic behaviour and corporate misconduct (Neville, Byron, Post, & Ward, 2019). Habib, Bhuiyan, and Wu (2020a) claimed that a board with a majority of independent directors can effectively monitor firm operations, besides curbing the occurrence of earnings management and fraudulent misstatement.

Malaysian researchers reported that board independence failed to curb financial restatement (Hasnan & Mohamed Hussain, 2015; Abdullah et al., 2010) and financial fraud (Sadique, Ismail, Roudaki, Alias, & Clark, 2019). Abdullah et al. (2010) concluded that this may stem from the fact that an independent board is only formed to guarantee unbiased judgment for firm operations and does not function as a monitoring mechanism towards firm management. However, Alaryan (2015) revealed that board independence can significantly increase the likelihood of misstatements, primarily because the failure is imbedded from the recognition of the independent director, which was deemed untrustworthy and not truly independent. Hence, the study hypothesised that:

H3a: There is a significantly positive relationship between board independence and the occurrence of material accounting misstatement.

Khoo, Lim, and Monroe (2020) argued that directors with multiple board directorships possess diverse experiences, skills, and resources that contribute to higher financial reporting quality. Some empirical studies regarded multiple directorships as a benchmark for director reputation and competencies (Bedard, Chtourou, & Courteau, 2004; Fama & Jensen, 1983). In this interpretation, multiple directorships are viewed based on the reputational hypothesis, whereby a higher number of directorship indicates higher credibility and competency in executing their duties (Bedard et al., 2004). As these directors understand the trends in the business industry, they are deemed to be more competent and experienced in safeguarding the quality of firm earnings. Ferris, Javakhadze, and Liu (2020) argued that these directors are sought after, due to their experience and extensive networking connections. However, Lee and Liao (2004) discovered that multiple directorships had an insignificant relationship with earnings management in government-linked and family-owned firms within the context of Malaysia. Hasnan, Mohd Razali, and Mohamed Hussain (2020) documented a similar finding upon assessing the financial restatement sample. They believed that the expertise and experience gained by the directors from additional directorships did not influence the financial reporting quality.

On the contrary, the busyness hypothesis finds multiple directorships can reduce board monitoring efficacy. Based on this hypothesis, increased workload from holding multiple directorships can prevent directors from discharging their board duties adequately. Directors may lose their focus due to unbearable workload and insufficient time, thus deteriorating firm governance and efficiency and causing the detection of accounting misstatements to be delayed (Emmanuel, Ayorinde, & Babajide, 2014). This thus would eventually raise the probability of material accounting misstatements. Hence, the following hypothesis is proposed:

H3b: There is a significantly positive relationship between multiple directorships and the occurrence of material accounting misstatement.

Securities Commission Malaysia (SCM, 2017) mentioned that the appointment of an independent audit committee member is crucial to ensure reliable decisions are made and credible financial statement is prepared. Apart from that, an independent audit committee must resolve conflicts that spark between management and external auditors (Neville et al., 2019). Their integrity in managing the financial reporting process will be questioned if most directors are part of the executive team, as they are bound to the management's interest. The support for this practice has been emphasised by Bursa Malaysia, which requires the audit committee to mainly consist of independent members (Bursa Malaysia, 2015). An independent audit committee can monitor and allow external auditor(s) to inspect and assess the reporting process objectively without any interference (Neville et al., 2019).

On the contrary, Marzuki, Haji-Abdullah, Othman, Wahab, and Harymawan (2019) discovered that independent audit committees increased the likelihood of fraudulent financial reporting and argued that these directors usually own a relatively small portion of shares, which could deprive their

motivation to thoroughly monitor firm activities and financial reporting process. The efficacy of this practice is indeed questionable as a study by KPMG (2013) on non-executive directors in Malaysia revealed that the appointment of these directors is mostly based on their connections instead of competency. Apparently, 45% of hired non-executive directors were either retired public servants or former politicians. Such a situation can jeopardise the potential of an independent audit committee to effectively hinder accounting misstatement. Hasan, Kassim, and Hamid (2020) found that independent audit committees did not contribute to effective governance for financial reporting quality. These findings show that an independent audit committee is not always effective for monitoring, especially to ascertain high-quality financial reporting. Thus, the hypothesis below is proposed:

H3c: There is a significantly positive relationship between audit committee independence and the occurrence of material accounting misstatement.

Other than that, members of the audit committee are argued to have adequate knowledge and expertise in both business and financial domains (SCM, 2017). The agency theory depicts that it is vital for expert members to motivate directors to critically supervise the financial reporting process so as to prevent managerial opportunistic behaviour (Ghafran & O'Sullivan, 2017). Similarly, prior studies found that financial experts in the committee are significantly related to higher financial reporting quality (Hasan et al., 2020). Ghafran and O'Sullivan (2017) highlighted that an audit committee with greater expertise offers more support to external auditors, which can improve financial statement credibility.

A study on audit committee characteristics performed by Wan Mohammad, Wasiuzzaman, Morsali, and Zaini (2018) involving a Malaysian sample discovered that expertise reduced the occurrence of financial restatement. However, outcomes on the efficacy of audit committee expertise in curbing financial reporting issues are rather mixed. In contrast with the above findings, Al-Absy, Ismail, and Chandren (2018) reported that the proportion of accounting experts exerted a significantly positive relationship with the events of earnings management in Malaysia. This was ascribed to the immense pressure posed by the management and the fear of losing their director seat. In fact, some Malaysian studies signified that audit committee expertise had an insignificant role in curbing financial restatements (Hasnan et al., 2020; Marzuki et al., 2019). This was attributed merely to complying with MCCG requirements without properly monitoring the practice (Abdullah, Ismail, & Nachum, 2016). Despite the conflicting findings, this study proposes the following hypothesis:

H3d: There is a significantly positive relationship between audit committee expertise and the occurrence of material accounting misstatement.

The latest MCCG recommends that the chairman and CEO positions should be held by different individuals to ensure operative governance (SCM, 2017). The practice of CEO duality has been awfully criticised due to its ability to motivate the directors to act in their own interest instead of maximising the shareholders' wealth (Jensen, 1993). The duty of a CEO is to delegate firm operations and day-to-day management activities, whereas a chairman facilitates the decision made by the board comprising of oversight on the management actions. Without segregating these positions, a fair disclosure is difficult to be maintained. This is because; the same individual can control and set the agenda of the board meeting to suit his best interest and allow opportunistic behaviour (Rashid, 2010). The agency theory supports this view as a CEO might use his authority for personal gain. Bouaziz, Salhi, and Jarboui (2020) found a significant link between CEO duality and the occurrence of earnings management and poor financial reporting quality.

In contrast with the agency theory, the stewardship theory cites the CEO as a steward who executes duties in line with organisational goals while bearing the interest of shareholders in mind. Alhmood, Shaari, and Al-dhamari (2020) agreed that CEO duality shapes an empowering corporate governance structure that enables the CEO to lead without board interruption whereby such practice guarantees firm success. They claimed that dual roles reduce board intrusion, ascertain efficient decision-making processes, and align management interests with firm goals. However, some reported that CEO duality had an insignificant effect on the occurrence of earnings management and financial restatement (Lee & Liao, 2004; Abdullah et al., 2010). This reflects inconsistent findings and an indefinite conclusion for the practice of CEO duality on the likelihood of accounting misstatements. Despite the mixed findings, this study proposed that:

H3e: There is a significantly positive relationship between CEO duality and the occurrence of material accounting misstatements.

2.4.2. External corporate governance

Chang (2015) posited that external corporate governance focuses on firm monitoring by external stakeholders. This study examined non-audit services by external auditors, Big 4 audit firms, and also control by creditors measured by the size of borrowings as proxies for external corporate governance. Unlike in the U.S. and other European countries where external auditors are prohibited from offering non-audit services to their clients, Malaysia still permits this practice (Wahab, Gist, & Majid, 2014). The dependency of the auditor's income on the non-audit services eventually eroded the auditor's independence and it affects the auditor's credibility in assessing financial statements. Beardsley, Imdieke, and Omer (2020) found that higher fees for non-audit services deteriorated audit quality, which increased the likelihood of material accounting misstatements. Hohenfels and Quick (2020) also reported that a higher level of non-audit services is significantly associated with higher earnings management.

On the contrary, the endorsement of non-audit services by external auditors, as reported by Wahab et al. (2014), functioned as knowledge spill over to auditors that aided in conducting the audit process. Wahab et al. (2014) revealed that non-audit services were negatively related to financial restatements. Hence, knowledge spill over eases the task of audit and hinders misstatement. However, Beardsley et al. (2020) stated that the auditor's economic

dependency on non-audit services was deducted by the benefit gained from the knowledge spillover effect, thus resulting in the insignificant influence of non-audit services on material accounting misstatement. Despite the contradicting findings, this study hypothesised that:

H4a: There is a significantly positive relationship between non-audit services and the occurrence of material accounting misstatements.

The public generally considered Big 4 as prestigious audit firms that offer excellent audit quality, in comparison to their counterpart. Along with the recruitment, these firms have impressed financial and accounting experts by providing high-quality audit which prevents the occurrence of material accounting misstatements. In the context of Malaysia, Rahman, Omar, Osman, and Zakaria (2020) claimed that the ability of Big 4 audit firms in curbing financial reporting issues appeared greater as they found that firms hiring Big 4 auditors possessed lower earnings management practices and higher financial reporting quality, in comparison to non-Big 4 audit firms. A significantly negative relationship between Big 4 audit firms with restatement and fraud was recorded by Qiu, He, and Luo (2019). Yet, Czerney, Schmidt, and Thompson (2014) denied the ability of Big 4 audit firms to provide high audit quality and assurance of the firm's financial reporting quality, as they found a significantly positive relationship between Big 4 audit firms and financial restatement.

However, some studies reported that Big 4 audit firms had an insignificant impact in curbing financial reporting issues. Abdullah et al. (2010) fail to find any statistical evidence to indicate that Big 4 auditors influenced the likelihood of financial restatement. They added that hiring a Big 4 audit firm did not bring any premium advantage to stakeholders in safeguarding financial reporting quality. Similarly, Hohenfels and Quick (2020) and Abid, Shaique, and Anwar ul Haq (2018) did not find a significant impact of Big 4 auditors on the occurrence of earnings management. Abid et al. (2018) claimed that most studies in the U.S. reported positive results on the quality of audits by Big 4 audit firms, which offered stringent investor protection and regulation that enabled auditors to be sued for negligence. The results may differ in countries with less stringent regulations. Thus, the following hypothesis is proposed:

H4b: There is a significantly positive relationship between Big 4 audit firms and the occurrence of material accounting misstatements.

Being the external party of a firm, creditors are passively involved in firm activities. As firms are inclined to apply debt financing than equity financing, creditors ought to play their part in corporate governance (Jandik & McCumber, 2018). As an outsider, a financial statement is the core reference for creditors to assess debtors' financial health. Due to their dependency on published financial reports, the literature records increment in financial reporting quality and transparency of accruals as creditors monitor and exert control on their debtors, especially when the amount of debt grows. Vakilifard and Mortazavi (2016) discovered that high-level debt subdued managerial opportunistic behaviour as a result of the pressure of debt covenant imposed by creditors and also the reduction of available cash. Shirzad and Haghighi (2015) reported a significantly negative relationship between leverage and earnings management. They added that the creditors tend to exercise greater control on firm activities to ensure a fair representation of financial statements to hinder earnings management as the level of debt escalates.

In contrast, Alzoubi (2018) noted that a higher amount of borrowings motivated earnings manipulation. The study found that accounting misstatement is performed to avoid costly debt covenant violation consequences. As debt covenant violation poses bankruptcy risk, firms tend to manipulate and overstate earnings to evade it. Hasnan et al. (2020) discovered that firms with high-level of leverage hid their financial health through material accounting misstatements to avoid debt covenant violations, as well as to secure potential loans provider. Thus, the following hypothesis is proposed:

H4c: There is a significantly positive relationship between the size of borrowings and the occurrence of material accounting misstatements.

3. RESEARCH METHODOLOGY

3.1. Sample selection

The population for this study is composed of non-financial PLCs in the main market of Bursa Malaysia between 2010 and 2018. As the financial sector is subject to a different regulatory framework, those firms were excluded from this study. For nine years, a total of 6,419 published annual reports of PLCs were collected. Following Abdullah et al. (2010), a screening process was executed to identify misstatement samples following GAO's financial restatement descriptions. The sample consisted of 103 misstatement firms. To achieve the objectives and to test the hypotheses of this study, a matched-pair procedure was deployed to select a control group comprising of non-misstatement firms which were matched based on the financial year-end, firm size (based on the firm's total assets), and industry group.

Following prior research that studied financial restatement (Abdullah et al., 2010, Aziz, Mohamed, Hasnan, Sulaiman, & Aziz, 2017; Wan Mohammad et al., 2018), the sample in this study was selected based on the GAO financial restatement category description. A total of 103 restatement firms that meet the selection criteria included in the study. The selection criteria is based on the step introduced by Abdullah et al. (2010) and Aziz et al. (2017), in which the keywords of 'restate', 'restatement', 'restated', 'prior adjustment', and 'comparative' are searched in each of the annual reports to find the incidents of financial restatements. The final sample for this study is 206 companies that consist of 103 restatement firms and 103 non-restatement firms which are matched by total assets. We matched 103 non-restatement firms (clean company-no restatement incidents) with 103 restatement firms. A similar method was employed by Hasnan et al. (2020).

Therefore, based on prior research, the above is the best research methodology available for now since our Stock Exchange and SCM do not provide such statistics on restatement firms yet.

3.2. Data collection

To identify a restatement sample, specified keywords of 'restate', 'restated', 'restatement', 'comparative figure', and 'prior year adjustments' were searched in the annual reports. This method is adopted from a study by Abdullah et al. (2010), which was also used by Wahab et al. (2014), Hasnan and Mohamed Hussain (2015), Mohamed Hussain et al. (2016), and Hasnan et al. (2020) in examining Malaysian financial restatement cases. Since there is no statistic or database that provides information for material accounting misstatements in Malaysia, manual search of the causes from the annual reports is the only possible way to collect a restatement sample that focuses on material accounting misstatements rather than simple restatement caused by error. And, as mentioned earlier, the present auditing standards by MIA (2018) dismiss auditors from disclosing 'immaterial' accounting misstatements in their findings, thus, strengthening the reliability of the material accounting misstatements data in this study. Data for the corporate governance practices were manually gathered from different sections of the annual reports published by the sample firms, which were retrieved from the official website of Bursa Malaysia (i.e., corporate information, director's profile, statement of corporate governance, notes to financial statements, etc.). Meanwhile, variables related to financial data were obtained from DataStream. The measurement of variables is presented in Appendix.

3.3. Model and analysis

The binary logistic regression was employed to test the relationships between the predictor variables and the occurrence of material accounting misstatement. Pearson correlation was also performed to test the multicollinearity assumptions via logistic regression. The binary logistic regression model used in this study is expressed in the following:

Model 1

$$MAM = \beta_0 + \beta_1 MOC_{i(t-1)} + \beta_2 DISTRESS_{i(t-1)} + \beta_3 BDIND_{i(-1)} + \beta_4 BDSHIP_{i(t-1)} + \beta_5 ACIND_{i(t-1)} + + \beta_6 ACE_{i(t-1)} + \beta_7 DUAL_{i(t-1)} + \beta_8 NAS_{i(t-1)} + \beta_9 BIG4_{i(t-1)} + \beta_{10} GEAR_{(t-1)} + \varepsilon_{i(t-1)} \quad (1)$$

4. RESULTS

The results of descriptive analysis for both continuous and dichotomous variables are presented in Table 1 (refer to Panels A and B). In light of continuous variables, only *GEAR* revealed a statistically significant difference at a 0.01 level. The misstatement firms showed a higher mean value (0.221) than the non-misstatement firms (0.124). This suggests that misstatement firms had a larger size of borrowings compared to non-misstatement firms. This outcome is consistent with the findings reported by Hasnan et al. (2020), who posited that firms with larger borrowings misstated their financial reports due to the pressure of debt covenant violations. As for dichotomous variables in Panel B of Table 1, *MOC*, *DISTRESS*, and *DUAL* displayed significant results. The table shows that *MOC* is statistically significant at a 0.05 level (p-value = 0.037). This suggests that the managers of misstatement firms were more overconfident than managers in non-misstatement firms. Similarly, Sutrisno and Karmudiandri (2020) discovered that overconfident firms tend to misstate their financial reports due to their irrational judgment and unmet overoptimistic forecast. Next, *DISTRESS* also showed a significant result at a 0.01 level (p-value = 0.001). This suggests that misstatement firms were more likely to be financially distressed firms than non-misstatement firms. Past studies found that financial distress motivated firms to commit material accounting misstatements due to the pressure of debt covenant violations and delisted from the stock market if the situation was disclosed (Pittman & Zhao, 2020). As for *DUAL*, a significant difference was noted at 0.01 level (p-value = 0.007), whereby misstatement firms (75.0, 20.4) reported a higher percentage than non-misstatement firms (25.0, 6.8) in both within IV and DV. Thus, misstatement firms were more likely to practice duality in their corporate governance practices than non-misstatement firms. Bouaziz et al. (2020) explained that CEO duality reduced board oversight, thus increasing the likelihood of earnings management and accounting misstatements.

Table 1. Descriptive statistics of misstatement firms and non-misstatement firms
(Panel A: Continuous variables)

Variable	*Misstatement*				*Non-misstatement*				*Independent sample t-test*	
	Mean	*SD*	*Min*	*Max*	*Mean*	*SD*	*Min*	*Max*	*t-value*	*p-value*
BDIND	0.479	0.134	0.286	1.000	0.451	0.114	0.222	0.750	1.594	0.112
BDSHIP	0.581	0.252	0.000	1.000	0.580	0.255	0.000	1.000	0.028	0.978
ACIND	0.883	0.156	0.500	1.000	0.881	0.153	0.600	1.000	0.098	0.922
ACE	0.451	0.240	0.000	1.000	0.428	0.170	0.167	1.000	0.810	0.419
NAS	0.120	0.189	0.000	1.050	0.159	0.175	0.000	0.813	-1.524	0.129
GEAR	0.221	0.198	0.000	0.882	0.124	0.132	0.000	0.699	4.142	0.0001***

Table 1. Descriptive statistics of misstatement firms and non-misstatement firms
(Panel B: Dichotomous variables)

Variable	*Misstatement*		*Non-misstatement*		*Chi-square test*	
	% Within IV	*% Within DV*	*% Within IV*	*% Within DV*	*t-value*	*p-value*
MOC	58.0	56.3	42.0	40.8	4.373	0.037**
DISTRESS	63.7	56.3	36.3	32.0	11.338	0.001***
DUAL	75.0	20.4	25.00	6.8	6.985	0.007***
BIG4	49.0	47.6	51.0	49.5	0.019	0.889

*Note: *, **, and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.*

To address the risk of multicollinearity in the binary logistic regression, Pearson correlation was computed. The strength of the correlation was defined in accordance with Cohen's interpretation (as cited in Pallant, 2016); a small correlation occurs when the values fall between 0.1 and 0.29, a medium correlation for values ranging from 0.3 to 0.49, and a strong correlation for values between 0.5 and 1.0. The risk of multicollinearity arises when two variables correlate at a value of 0.9 or higher (Pallant, 2016).

Referring to Table 2, the strongest correlation appears between *DISTRESS* and *GEAR* (0.544 at 0.01 level). This correlation indicates that financially distressed firms were positively linked with larger amounts of borrowing that led to defaults in debt payments and further caused financial distress (Habib et al., 2020b). *DISTRESS* also displayed a significantly positive correlation with material accounting misstatement, *MAM* (0.155) and *MOC* (0.505) at a 0.01 level. As pointed out by Habib et al. (2020b), to prevent losing business opportunities and stakeholders' trust; firms tend to manipulate their financial statements. Ho and Chang (2012) explained that the correlation between *DISTRESS* and *MOC* can be ascribed to the approach taken by overconfident managers who practiced high debt structure due to underestimation of financial distress costs.

DISTRESS was also correlated with *BDSHIP* (0.142 at a 0.05 level). Ferris et al. (2020) described that board monitoring efficacy decreased with board members' multiple directorships, which consequently led firms into financial distress due to poor decisions. Another significant correlation was noted between *MOC* and *GEAR* (0.519 at a 0.01 level). Its positive correlation depicts that highly overconfident firms had a larger size of borrowings. Esghaier (2017) asserted that overconfident firms had higher debt utilisation because they underestimated the risk of their business decisions. *MOC* displayed a significantly positive link with *MAM* with the value of 0.155 at a 0.05 level. Schrand and Zechman (2012) explained that such a correlation reflected the tendency of overconfident managers in making overoptimistic forecasts that caused distorted investment and financial decisions. When the result was not in line with their forecast, accounting misstatement was committed.

Table 2 revealed a significantly positive correlation between *BDIND* and *ACIND* (0.391 at a 0.01 level). This correlation was indeed expected as firms with a high number of independent members on their board commonly have a higher proportion of independent committee members, as recommended by the MCCG. Another significant correlation was observed between *BDSHIP* and *GEAR* (0.206 at a 0.01 level). This denotes that board members with multiple directorships might not review the decisions taken by the management of each firm efficiently due to their busyness. *BDSHIP* also exhibited a significantly positive link with *NAS* and *BIG4* (0.156 and 0.141 at a 0.05 level). This suggests that firms with a higher percentage of multiple directorships on the board commonly hired *BIG4*, which probably offered *NAS*. A significant correlation was also found between *BDSHIP* and *DUAL* (-0.232 at a 0.01 level), but the correlation was negative; indicating that the practice of CEO duality rarely occurred in firms with board members having multiple directorships.

Table 2 also presents a significantly negative correlation between *DUAL* and *BIG4* (-0.158 at a 0.05 level). Apparently, firms exerting CEO duality tend to hire Big 4 audit firms. A positive correlation was noted between *DUAL* and *MAM* (0.198 at a 0.01 level). Bouaziz et al. (2020) discovered that CEO duality encouraged opportunistic actions as board supervision and independence could be compromised, thus subsequently promoting earnings management and financial manipulation. Lastly, a significantly positive correlation was observed between *MAM* and *GEAR* (0.279 at a 0.01 level). The correlation is attributed to firms with a large amount of debt that tend to masquerade their financial statements to hide any financial information that can prove a violation of the debt covenant (Alzoubi, 2018). Overall, all the correlation values do not exceed 0.9; signifying that multicollinearity risk is absent in the regression analysis (Pallant, 2016).

Table 2. Pearson correlations statistics among the test variables

	MAM	*MOC*	*DISTRESS*	*BDIND*	*BDSHIP*	*ACIND*	*ACE*	*DUAL*	*NAS*	*BIG4*	*GEAR*
MAM	1										
MOC	0.155*	1									
DISTRESS	0.244**	0.505**	1								
BDIND	0.111	0.002	0.042	1							
BDSHIP	0.002	0.121	0.142*	-0.018	1						
ACIND	0.007	-0.028	0.014	0.391**	-0.045	1					
ACE	0.057	-0.034	-0.010	-0.008	0.024	0.067	1				
DUAL	0.198**	-0.073	-0.125	-0.086	-0.232**	-0.011	0.082	1			
NAS	-0.106	-0.084	-0.101	-0.004	0.156*	0.006	0.057	-0.036	1		
BIG4	-0.019	-0.049	-0.023	-0.063	0.141*	-0.092	-0.061	-0.158*	0.122	1	
GEAR	0.279**	0.519**	0.544**	-0.025	0.206**	-0.004	0.038	-0.085	-0.013	0.104	1

*Note: n = 206; * and ** denotes significance at 0.05 and 0.01 levels, respectively.*

The results of binary logistic regression analysis are presented in Table 3. The overall model shows a Cox & Snell R-squared value of 0.173 (Nagelkerke R^2: 23%), which means that 17.3% of the variation in the material accounting misstatements is explained by the factors tested in the study. Amongst other variables, *DISTRESS*, *BDIND*, *DUAL*, and *GEAR* show significant results. Detail discussion of the results for each variable is provided in the following section.

Table 3. Binary logistic regression analysis of material accounting misstatements

	Coefficient (β)	Wald statistics	p-value
MOC	-0.133	0.126	0.723
DISTRESS	0.649*	2.921	0.087
BDIND	3.04**	4.798	0.028
BDSHIP	0.072	0.012	0.913
ACIND	-0.892	0.645	0.422
ACE	0.482	0.384	0.535
DUAL	1.712***	11.050	0.001
NAS	-1.144	1.707	0.191
BIG4	0.061	0.036	0.849
GEAR	3.407***	7.233	0.007
Constant	-1.760	2.501	0.114
Cox & Snell R^2			0.173
Nagelkerke R^2			0.23
n			206
Classification rate			63.60%
Hosmer & Lemeshow test	9.497		0.302

*Note: *, **, and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.*

5. DISCUSSION

With regard to motivation variables, only *DISTRESS* showed a significantly positive relationship with the occurrence of material accounting misstatements at a 0.10 level of significance. The positive coefficient indicates that financial distress contributed to the occurrence of material accounting misstatements, thus supporting *H2*. In a similar vein, Handoko et al. (2020), and Pittman and Zhao (2020) documented that financial distress increased the likelihood of material accounting misstatement and deteriorated the financial reporting quality. Handoko et al. (2020) mentioned that financially distressed firms are motivated to misstate their financial statement to avoid debt covenant violations, gain positive market reactions, as well as to secure the trust of investors and stakeholders. Since financial distress could threaten managerial position and reputation, it motivates them to conceal the deteriorating financial performance by resorting to material accounting misstatement (Mohamed Hussain et al., 2016). Hence, it can be concluded that the financial health of Malaysian PLCs influenced the likelihood of material accounting misstatements. However, another variable under motivation, i.e., *MOC*, revealed an insignificant relationship with the occurrence of material accounting misstatements. Referring to the results listed in Table 3, *H1* is not supported. Although Sutrisno and Karmudiandri (2020) argued that managerial overconfidence often leads to overoptimistic judgment that increases the propensity of Indonesian firms to misstate their financial statements, this study found an insignificant association between managerial overconfidence and the occurrence of material accounting misstatements. Although managerial overconfidence shows a significantly positive correlation with material accounting misstatements (refer to Table 2), the relationship turned insignificant in the regression analysis. This is ascribed to the inter-relationship formed among the independent variables that exerted a dramatic impact on the results in logistic regression analysis.

As for the variables under internal corporate governance practices, only *BDIND* and *DUAL* showed statistically significant results. The other three variables labelled as *BDSHIP*, *ACIND*, and *ACE* were insignificantly related to the occurrence of material accounting misstatements. Table 3 reveals a significantly positive relationship between *BDIND* and the occurrence of material accounting misstatement (p-value = 0.028 at a 0.05 level). Hence, firms with higher board independence were prone to material accounting misstatements; denying the role of board independence as an effective monitoring mechanism to curb material accounting misstatements. The result rebukes the long-established guidelines prescribed by MCCG throughout 2007, 2012, 2017, and 2021. The outcome is consistent with Shaique, Guo, Shaikh, Khan, and Usman (2017), Alaryan (2015), and Amran and Manaf (2014), who also discovered that board independence was linked with financial manipulation, low financial reporting quality, and accounting misstatements. Amran and Manaf (2014) argued that the failure of this practice is ascribed to the lack of real meaning of independence among the directors. Shaique et al. (2017) added that the independent directors failed to effectively monitor managerial opportunistic behaviour as they had social ties with the management, thus hindering them from questioning actions taken by the management. Hence, board independence denotes an opportunity for firms to manipulate their financial statements due to the information asymmetry that independent directors possessed. Therefore, *H3a* is supported, whereby board independence is an opportunity that increases the likelihood of material accounting misstatements in Malaysian PLCs.

Another internal corporate governance practices variable that displayed significant results is *DUAL*. Table 3 shows that CEO duality is significantly and positively related to material accounting misstatements (p-value = 0.001 at a 0.01 level), thus *H3e* is supported. This suggests that firms practicing CEO duality were inclined to commit material accounting misstatements. Bouaziz et al. (2020) presented a similar finding that the presence of CEO duality increased the likelihood of earnings management and accounting misstatements. In the latest MCCG (SCM, 2021), it is recommended that the positions of CEO, managing director, and board chairman to be held by different persons. The recommendation is made because CEO duality is commonly linked with conflict of interest and abuse of power. By giving the position of CEO who manages the firm's day-to-day operations and the board chairman who facilitates management actions to the same individual, it allows one to

behave opportunistically for personal gain, which in turn, increases the risk of material accounting misstatements. As CEO duality enables the control over board meeting agenda, disclosure not in line with one's self-interest can be hindered (Rashid, 2010). This encourages the occurrence of material accounting misstatements.

Insignificant results were obtained for *BDSHIP*, *ACIND*, and *ACE*, signifying the rejection of *H3b*, *H3c*, and *H3d*. It is important to note that, except for *ACIND*, the sign of the coefficient of these variables is consistent with the study expectations. As the study regarded these variables as opportunity factors that allow misstatement, a positive relationship was expected between these variables and the occurrence of material accounting misstatements. In light of *BDIND*, the finding is similar to that reported by Hasnan et al. (2020) and Lee and Liao (2004), who found insignificant linkages among multiple directorships, earnings management, and financial restatement in Malaysia. As for *ACIND*, audit committee independence had no significant role as a monitoring mechanism in curbing the occurrence of material accounting misstatements. The result is consistent with Hasan et al. (2020) and Sadique et al. (2019), who examined earnings management, restatements, and fraudulent financial statements samples. The KPMG (2013) claimed that the appointment of outside directorships had been mostly based on their connections instead of their abilities. This could lead to the ineffectiveness of independent directors in curbing material accounting misstatements. *ACE* portrayed that the financial expertise possessed by the audit committee members did not influence the occurrence of material accounting misstatements. He et al. (2009) explained that having only financial expertise is not as effective as having a balanced board with experts in other fields. This study shares a similar finding with Marzuki et al. (2019), who found that audit committee expertise had an insignificant link with fraudulent financial reporting in Malaysia.

External corporate governance practices variables deployed in this study are *NAS*, *BIG4*, and *GEAR*. The predictions for the relationships between these variables and the occurrence of material accounting misstatements are stated as *H4a*, *H4b*, and *H4c*. However, *H4a* and *H4b* are not supported as Table 3 shows no statistical significance between these variables and material accounting misstatements. Only *GEAR* exhibits a significantly positive relationship with the occurrence of material accounting misstatements, thus supporting *H4c*. The result indicates that, as the size of borrowings grew, the likelihood of material accounting misstatement to occur increased. In other words, firms with higher debt were more likely to commit material accounting misstatements. Hasnan et al. (2020) concluded that these firms would resort to accounting misstatement to avoid debt covenant violations and to secure loans. Hence, the financial statement is manipulated to ensure a favourable representation of the firm's financial position. With respect to *NAS*, Beardsley et al. (2020) argued that the benefits of knowledge spillover of *NAS* could be negated by economic dependence, thus eliminating the significant relationship between *NAS* and the occurrence of material accounting misstatements. For *BIG4*, the insignificant result is consistent with Hohenfels and Quick (2020) and Abid et al. (2018), who found that hiring Big 4 audit firms did not offer any premium advantage in curbing earnings management and financial restatement. Therefore, it can be concluded that *BIG4* is not a significant factor that can influence the likelihood of material accounting misstatements.

6. CONCLUSION

Misrepresentation in financial statements has caused users to suffer from irrecoverable losses, evinced by prior accounting scandals. This has motivated the researchers to investigate factors that contributed to the occurrence of material accounting misstatements in Malaysia. Upon assessing the relationships between the proposed predictor variables and the occurrence of material accounting misstatements, 206 firms listed on Bursa Malaysia's main market from 2010 to 2018 were selected. Based on this sample, the study identified that financial distress, board independence, CEO duality, and size of borrowings increase the likelihood of material accounting misstatements in Malaysian PLCs. However, there is no statistical evidence to support that managerial overconfidence, multiple directorships, audit committee independence, audit committee expertise, non-audit services, and Big 4 audit firms influence the occurrence of material accounting misstatements.

To the best of the researchers' knowledge, this is amongst the earliest studies in Malaysia that have examined the relationship between managerial overconfidence and the occurrence of material accounting misstatements. Although managerial overconfidence displayed no significant impact on the occurrence of material accounting misstatements, it serves as a starting point and encouragement for the future research endeavour. Nonetheless, caution should be exercised in making inferences as the sample of the study only focuses on PLCs. In addition, the material accounting misstatements variable is measured dichotomously which does not capture the severity of different types of misstatements. It should be noted that the study relies on proxies available from secondary data and thus, the behavioural aspect of owners and managers is beyond the scope of this study. Worth noting, unlike in developed countries, the issue of an inadequate database, especially for research purposes, is one of the limitations in most emerging countries. However, future research may consider other sources and credible database providers such as Bloomberg.

This study facilitates regulators, which have the power to control the corporate market, to gain new insights into the related requirements and recommendations by MCCG and BMLR. To ensure that the occurrence of material accounting misstatements can be effectively mitigated, regulators need to apply more stringent enforcement and stricter penalties on the offender.

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APPENDIX. MEASUREMENT OF VARIABLES

Variable	*Acronym*	*Descriptions*
Material accounting misstatement	*MAM*	The dummy variable coded as ‘1’ for misstatement firms and ‘0’ for non-misstatement firms (Hasnan et al., 2020; Wan Mohammad et al., 2018).
Managerial overconfidence	*MOC*	The firm’s debt-to-equity ratio was compared to the industry median; a higher value indicates the presence of overconfidence with dummy variable coded ‘1’ and ‘0’ otherwise (Sutrisno & Karmudiandri, 2020; Schrand & Zechman, 2012).
Financial distress	*DISTRESS*	Altman Z-score model with a dummy variable coded as ‘1’ for a score below 2.073 (< 2.073), and ‘0’ otherwise (Handoko et al., 2020).
Board independence	*BDIND*	The ratio of independent directors on the firm board (Hasnan & Mohamed Hussain, 2015).
Multiple directorships	*BDSHIP*	The ratio of directors with outside directorship/s on the firm board (Sadique et al., 2019; Lee & Liao, 2004).
Audit committee independence	*ACIND*	The ratio of independent audit committee members (Hasnan & Mohamed Hussain, 2015)
Audit committee expertise	*ACE*	The ratio of audit committee members with accounting expertise (Ghafran & O’Sullivan, 2017).
CEO duality	*DUAL*	The dummy variable labelled ‘1’ if the posts of board chairman and CEO are combined, and ‘0’ otherwise (Rashid, 2010).
Non-audit services	*NAS*	The ratio of non-audit services fees paid over the total fees paid by a firm (Wahab et al., 2014).
Big 4 audit firm	*BIG4*	The dummy variable coded as ‘1’ if the external auditor is a Big 4 auditor, and ‘0’ otherwise (Abid et al., 2018).
Size of borrowings	*GEAR*	The gearing ratio of total long-term debt to the sum of total equity and long-term debt (Chang, 2015).